The OIL WEEKLY

A Journal for
Oil and Gas Producers and Field Men

HOUSTON
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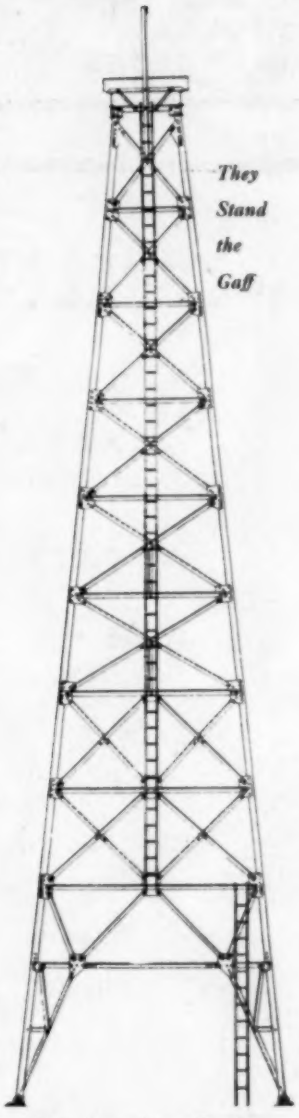

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International

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Guide for Purchasers on Pages 81-82

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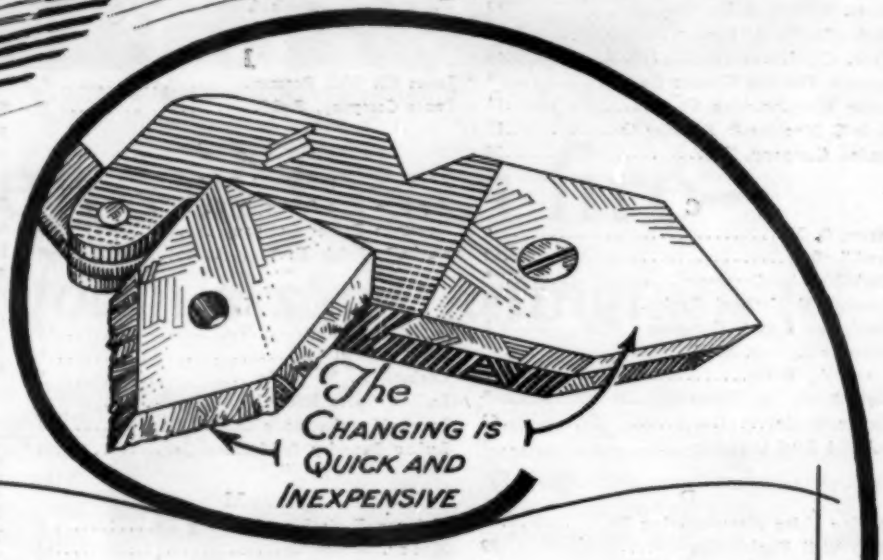

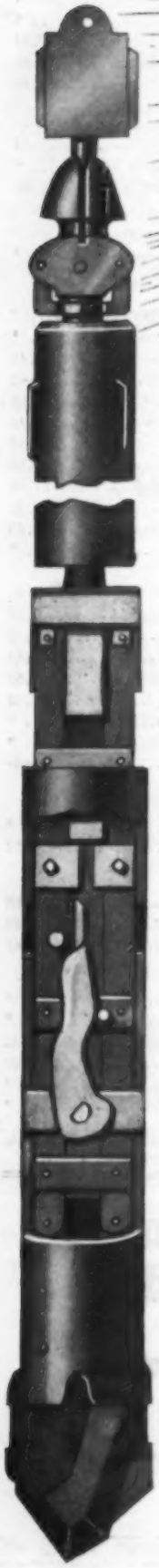

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Vol. 31 SATURDAY, NOVEMBER 3, 1923 No. 6

In this issue.

The Big Deal

What's in the wind. Meaning, of course, the outcome of the deal between the Prairie Oil and Gas Company and the Producers and Refiners Corporation. See all the details on page 11.

Fire—Fire—Fire

Without the co-operation of men in the field, efforts at fire prevention and other safety measures are under a handicap. In this week's installment of the series on fire prevention, the human element is covered and methods of gaining employes' co-operation are given. The article begins on page 19.

Powell Price Cut

When the daily production passed 300 000 barrels the inevitable cut which is the penalty of too much flush came into evidence. Indications that the pool will extend to southwest. Page 41.

Teapot Sizzles

Investigation brings out fact that famous Rocky Mountain field may not reach expectations as to production. What they told the investigators at Washington will be found on page 12.

To Go Deeper

Not content with the biggest production in the history of Texas oil fields, producers in the Corsicana-Powell area are looking for a deeper formation. Mr. King gives the details on page 25.

Back Pressure

What the Amerada Petroleum Corporation has learned from experiments with back pressure in flowing and pumping oil wells is told in a paper by John M. Lovejoy, page 27.

Oklahoma Activities Less

Oklahoma has had one of the quietest weeks in its history as an oil producing area, due to slow recovery from recent floods and a dearth of new wells. Production falling. Page 39.

October Output

Statistics for the month of October show that little change has taken place in the recovery of oil for the past 90 days. The figures as compiled by The OIL WEEKLY give the output of the country at better than 69,000,000 barrels. Page 9.

Eastern Situation Quiet

East of the river, oil operators are confining their activities to compliance with lease requirements. Page 45.

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KEY TO ABBREVIATIONS

Following is the explanation of abbreviations and signs used in drilling reports, completions, etc.: *—dry, abandoned well; ‡—salt water; †—junked and abandoned; ¶million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking, sp—spudded; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo workover; wosr—waiting on standard rig.

California Stiffening

Paradoxical as it may seem, the report is that the storage program will soon surpass the oil supply in California, and some concerns are worried about the possibility of not being able to cover contracts. Page 35.

To Tell 'Em

The Mid-Continent Oil and Gas Association has started a constructive advertising campaign to inform the public and law making bodies of the country on the actual facts of the oil industry. **A real Move.** Read about it on page 13.

Oil School

Up in Canada the Imperial Oil Company does not confine its efforts of welfare to its employes alone. The children are looked after and a modern school house is among the monuments to the interest the company shows in the children. It is more than a school and a school house, which serves as a community center and the base for the loan library. Page 23.

Gas Men Meet

Canadian gas men have pow wow in Toronto and make plans for next year. A real get together with lots of pep. See what they did on page 14.

Even in Peru

Even in Peru the search is on for oil deposits. The search started back in the sixties. Now the claims are that the highest pool in the world is awaiting development. The article on page 31 is by the assistant director of exploration of the Union Oil Company of California.

Wildcatting Newfoundland

English capital is behind two projects which seek to develop oil wells in Newfoundland—continuing a program which has gone on intermittently for several years. Page 46.

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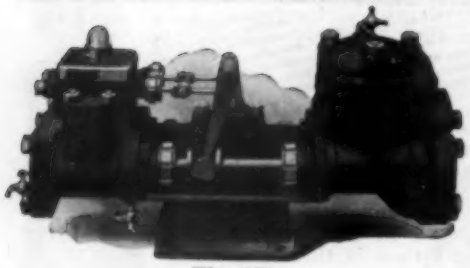

Fig. 623
Size 3 x 2 x 3

General Service Type

For 200 pounds Working Pressure

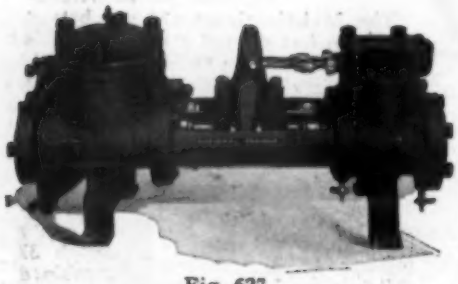

Fig. 627
Size 6 x 4 x 6

Contain the same quality and careful workmanship found in their largest pipe line pumps.

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Little Change in U. S. Output in October

Flush production offsets losses in old section —Recovery for month 63,073,086 Barrels

With a total recovery of crude oil of 63,073,086 barrels during the month of October, little change has been registered in the nation's output during the past 90 days. The October figures reached this mark as a result of the high production obtained in the new Corsicana-Powell field of Texas. Other sections of the country all reported declines in the daily average for the 31 day period.

A sharp decline is shown in the number of completions for October as compared with September, clearly indicating the extent to which curtailment efforts have been rewarded throughout the country. A total of 1078 wells was finished during the month, or a loss of more than 500 over the previous review period. New production added from the 633 producers totaled 396,135 barrels against 631,453 barrels for the previous month.

Largest U. S. Field

Assuming the role of the largest oil field in the entire country late in October, with an actual daily production considerably above the 300,000 barrel mark, the Corsicana-Powell field in East Central Texas has outgrown all available facilities for handling the immense production. This has necessitated the pinching of a few of the larger producers, and many tests are on top of the Woodbine pay sand waiting for an outlet for the oil. With a recovery of 6,495,240 barrels in October the grand total of approximately 18,000,000 barrels has been produced in the field to date. Practically all of this production has been obtained since the middle of last May.

Added to the list of records established at Corsicana-Powell, is the fact that not one dry hole has been drilled on the so-called structure, and only a comparatively few failures have been completed on the edges of the field. Operators have cautiously stepped out from the field except in the direction of the general trend of production. The field has followed a somewhat narrow path direct to the southwest from the discovery well, and is now approximately seven miles in length, with a width ranging from a quarter of a mile to 3500 feet. The last extension proved the field for production across the railroad, with a 6300 barrel well. Indications are favorable for further extensions to the southwest by tests that have drilled through the Austin chalk formation at normal depths when compared with logs of closest producers.

Since the daily output of the field outgrew pipe line facilities early in October and only a limited amount of steel storage remains empty in the field the operators are disposing of a large quantity of their surplus production through the use of tank cars. Thousands of cars are loaded each week from the numerous loading racks built on two sides of the field, and this oil is being dispatched to points on the coast, Fort Worth and Joliet, Illinois.

During October the field reported 136 completions, of which 129 were producers with a combined initial flow of 344,330 barrels. The seven tests listed as failures consist of two junked holes in the chalk formation and five tests that were never drilled to the pay depth because of being found off structure.

Upward Again

The downward trend of production in the majority of the large oil fields in the North and Central West Texas district was checked during October as a result of three of the major pipe line companies, the Humble, Texas and Magnolia, removing the limit on purchases and runs from outside leases after enforcing their proration policies for nearly two months. The remaining pipe line companies are still prorating about 50 per cent, but do not have as many connections in the fields. The restriction of crude runs by these major companies proved to be an effective weapon in forcing producers to curtail their drilling and production, and worked a hardship on many by reason of having to shut down old pumpers, or take the expense of erecting individual storage tanks. Since the posted prices on crude were further reduced in October, and the market is still in an unsettled condition, the operators in the North and Central West Texas fields appear to favor holding back unnecessary drilling.

The bulk of the new production reported from this section of the state during October is credited to Archer County, which has enjoyed considerable drilling activity throughout the year due to discoveries of series of small pools. The oil produced in Archer County averages 40 gravity and better, and for this reason a ready market is obtainable at refineries located in and around Wichita Falls, although prices slumped below the posted schedule during August and September when runs were being prorated by The Texas Company. This high grade oil is found in sands ranging from 1500 to 1800 feet, and costs of drilling are comparatively small. During October Archer County reported 45 completions, of which 37 were oil producers with a combined initial production of 7320 barrels, while the total output for the month aggregated 555,095 barrels, or a gain of 72,935 barrels.

Drilling activity in Burkburnett and Electra fields was comparatively slow in October, and the latter field registered a slight loss in monthly output as result of absence of new production for past three months. Burkburnett

OCTOBER U. S. PRODUCTION

Following is the gross estimated production of crude oil in the United States for the month of October as compiled by The OIL WEEKLY.

	Barrels
California	25,931,500
Texas	14,74[illegible]506
Oklahoma	12,382,268
Mountain States	4,5[illegible]5,305
Arkansas	3,878,968
Eastern States	3,351,875
Kansas	2,228,950
Louisiana	2,042,714
Total	69,073,086

PAST TWELVE MONTHS

The record for the past twelve months is an interesting study for comparison purposes, the following table giving field statistics for all states in the Union with the exception of the Mountain States and California:

Month—	Completions	Producers	Gas wells	Failures	Initial Prod.
October	1,593	951	247	395	183,023
November	1,409	879	151	385	236,230
December	1,883	1,151	242	458	344,551
January, 1923	1,518	909	208	401	245,540
February	1,472	873	194	450	191,852
March	1,804	1,083	207	514	293,829
April	1,703	1,134	184	385	270,593
May	2,006	1,369	170	467	289,299
June	2,379	1,634	166	584	418,249
July	1,919	1,256	172	511	420,546
August	1,210	939	189	364	506,815
September	1,546	990	292	264	631,453
October	1,078	633	181	264	396,135

Cheyenne, Wyo., Oct. 30.—Dana H. Kelsey, vice president and general manager of the Prairie Oil and Gas Company, has been elected to succeed W. S. Fitzpatrick who recently resigned as president of the Kasoming Oil Company. A. G. Dana, also of the Prairie Oil and Gas Company will succeed H. H. Madden who recently resigned as president of the Blair Oil Company. The Kasoming and Blair companies are Wyoming operating subsidiaries of the Prairie Oil.

UNITED STATES FIELD STATISTICS

Following are the completions, showing producers, gas wells, failures and initial production of crude by states, except California and Mountain States, for the month of October, as compiled by The OIL WEEKLY:

State—	Completions	Producers	Gas wells	Failures	Initial Prod.
Arkansas	84	63	4	17	22,617
Illinois	12	5	2	5	97
Indiana	10	7	1	2	74
Kansas	31	9	..	22	628
Kentucky	139	90	7	42	1,985
Louisiana	51	15	18	18	812
Maryland	..	..	..	..	...
Mississippi	..	..	..	..	...
New York	20	19	1	..	98
Ohio	155	80	43	32	1,476
Oklahoma	184	101	16	67	20,787
Pennsylvania	97	64	22	11	536
Tennessee	7	..	..	7	...
Texas	165	147	..	18	346,530
Virginia	..	..	..	..	...
W. Virginia	123	33	67	23	495
Total	1,078	633	181	264	396,135

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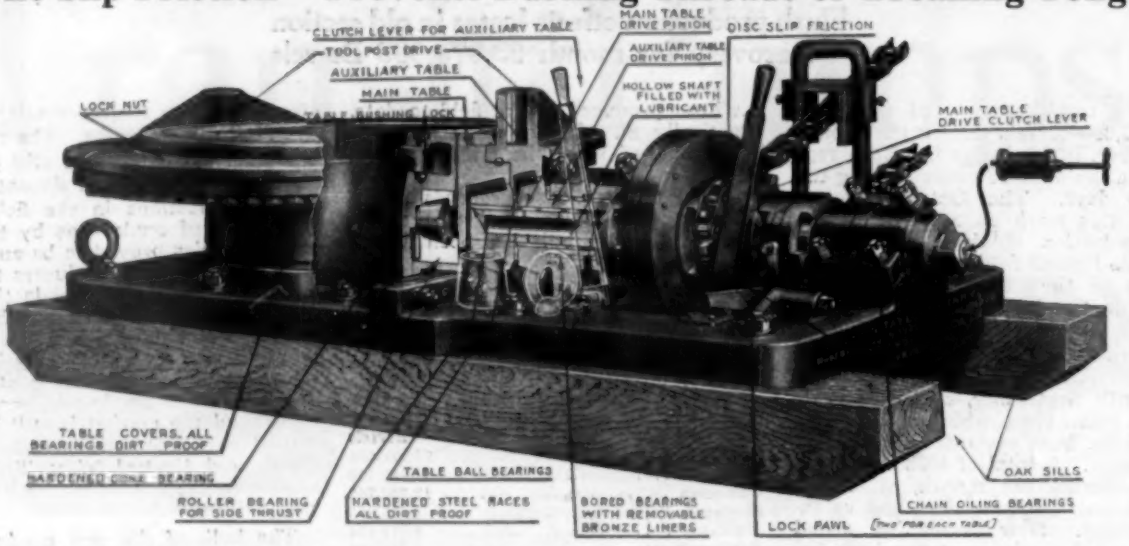

Drillers who are skeptical as to the success of a make and break rotary should withhold judgment until they see a Lufkin-Taylor operate. They will eventually hold the field when all other types are in the discard.

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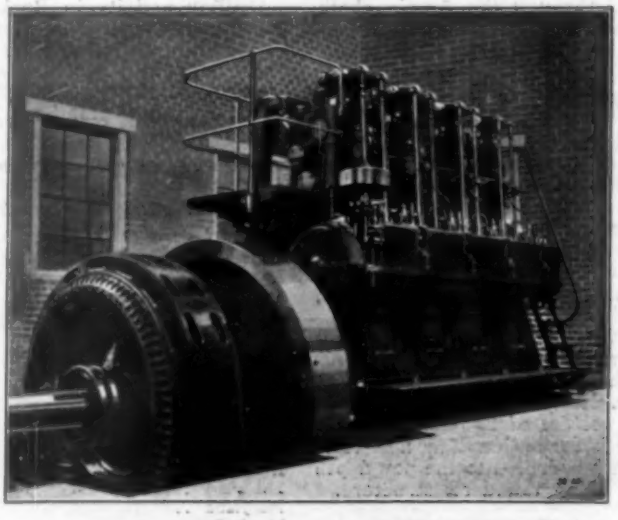

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310,000 horsepower in operation.

Send for

Bulletin No. 158—Horizontal type "DH" oil engine.

Bulletin No. 180—Horizontal type "SI" oil engine.

Bulletin No. 183—Vertical type "SI" oil engine.

De La Vergne Machine Co.

921 East 138th Street
NEW YORK, N. Y.

Also manufacturers of Ice Making and Refrigerating Machines

Prairie Would Become Refiner and Distributor

Deal for P. & R. properties seems sure of completion, after approval of officials

Acquisition of properties of the Producers & Refiners Corporation by the Prairie Oil & Gas Company will place the Prairie concern in branches of the petroleum industry not previously attempted by this unit of the Standard oil group and provides a crude oil outlet, which has been to some extent taken away from the Prairie through water shipments to the Atlantic seaboard from both Texas and California.

Statements from New York, Chicago and Independence indicate that the deal will be concluded on the basis proposed, with the Prairie exchanging one share of its $100 par value common stock for 10 shares of P. & R. common stock, par value $50, up to 51 per cent of P. & R. common stock. Directors of the P. & R. have approved the transaction and stockholders are now being asked to give expression. Meanwhile the Prairie proposal for the basis of stock exchange is being prepared for distribution.

In the past the Prairie has confined its activities to the producing, buying and transportation of crude oil. Its pipe line system, the largest in the world, extends from Mexia, Texas, to the Atlantic coast, touching all the light oil pools of the Mid-Continent area.

It was through this system that shipments of the Prairie once rose to 190,000 barrels daily, the greater part of it being delivered to the refining centers along the Atlantic seaboard. In the past year these shipments have slowly declined. The Standard Oil Company of New Jersey as well as other concerns took advantage of crude oil delivered by tanks from both California and Texas.

Faced with a diminished outlet on the Atlantic seaboard, the Prairie for the most of this year has ceased to be the factor it was formerly in the buying of crude oil in the Mid-Continent.

Now comes the deal, whose completion will remedy the loss of part of the Atlantic business, as well as place the Prairie in the refining and distributing ends of the petroleum industry.

The Producers & Refiners Corp. has three refining plants. One being completed at Parco, near Casper, Wyoming, will have daily capacity of 10,000 berrels daily. In Oklahoma the concern has two plants, one at Tulsa, with 6,000 barrels daily capacity, one at Blackwell with 2,500 barrels daily capacity. In addition the concern has four natural gasoline plants in Wyoming and Oklahoma. Pipe lines serve all these plants.

Through capital stock ownership, the Producers & Refiners has distribution through 375 filling stations in Iowa, Minnesota, Illinois, Kansas, Louisiana, Oklahoma and Texas. The concern owns more than 600 tank cars. The concerns controlled by the Producers & Refiners are the Hudson Oil Co., Hawkeye Oil Co., Lyons Petroleum Co., Kistler Refining Co., Pan American Refining Co., Pan American Oil Corp., Pikes Peak Petroleum Producers Co., Crystal Oil Corp., Sand Drew Pipe Line Co., Freemont Natural Gas Co., Fensland Oil Co., and the Producers & Refiners Corp. of Tennessee.

In acquiring the Producers & Refiners Corp., the Prairie will come into control of a complete sales organization, which is centered in Chicago, where the Producers & Refiners opened an office in 1922. This organization serves its own stations throughout the Middle West, as well as scores of other buyers, with some 100 of which it has exclusive contracts. Its sales and distributing organization has outlet in Colorado and Wyoming, where the concern was started.

What effect the consummation of the deal will have on Prairie properties and previous plants in the Mountain states is a subject for speculation. Last year the producing properties in this section were incorporated as the Kasoming Oil Co. At that time there was a rumor that Prairie would build a pipe line from Wyoming to the Mid-Continent, following the venture of the Sinclair Pipe Line Co.

Since the P. & R. deal will place the Prairie in competition with the Standard Oil Co. of Indiana, whose connection with the Sinclair interests is growing, it seems logical that the building of a Prairie line from Wyoming to the Mid-Continent will have serious consideration in the future.

The Producers & Refiners Corporation is known to have potential production in Wyoming in excess of its outlet. A pipe line to the Mid-Continent would afford an outlet for this excess oil as well as bring it to the refining plants owned in Oklahoma, where its gasoline is refined for distribution through the chain of filling stations in the Middle West.

Producers & Refiners is a $30,000,000 corporation. It has 745,000 shares of common stock outstanding, $50 par value, with preferred stock of $2,800,000, par $50, issued.

Kistler's Statement

In a public statement regarding the deal with the Prairie, Frank L. Kistler, of Chicago, chairman of the board of Producers and Refiners said, "I consider the transaction involving the exchange of Producers and Refiners stock for Prairie stock as being of great mutual advantage to each organization. The alliance with the Prairie insures the completion of the Producers and Refiners development policies in Wyoming and the realization of the large potential values in its properties and at the same time provides the Prairie with an extensive and modern refining capacity tank car marketing facilities for its refined products or in other words supplies the elements now lacking in the Priarie to make it a complete unit in the oil industry. I am proud of the fact that this alliance has been made with an organization of the character and Standing of the Prairie." No change in the management of either concern is contemplated.

Chicago, Ill., Oct. 30.—Prairie Oil and Gas Company's proposal to obtain control of Producers and Refiners Corporation, and thereby enable the company to enter the refining and marketing branches of the oil business, through an exchange of stock had been approved by directors of P. & R. who are notifying stockholders of the company of the deal so that they may record their approval or disapproval. It is believed here that the deal will go over as originally projected.

Prairie's offer includes the exchange of one share of its common stock, par value $100, for 10 shares of Producers and Refiners stock, par value $50, to the extent of 51 per cent of the latter company's common capital stock. Producers and Refiners now has outstanding 745,000 shares of common stock and about $2,800,000 worth of shares of preferred stock of $50 par value.

The deal between Producers and Refiners Corporation and the Prairie Oil and Gas Company has been pending for some weeks, conferences having been held both in Chicago and in Independence, Kansas.

Independence, Kans., Oct. 30.—Acquisition by the Prairie Oil and Gas Company of a controlling interest in the properties of Producers and Refiners Corporation will enable the Prairie to enter the field of competition as a completely rounded-out oil company with producing, refining, transporting and marketing facilities. As it now functions, the Prairie only produces and transports crude oil as well as being the largest purchaser of crude oil in the Mid-Continent field.

Producers and Refiners Corporation has extended its holdings considerably within the last year or two, chiefly in the Mid-Continent and in the West. The company operates a modern refinery at West Tulsa, Oklahoma, and another at Blackwell in the same state as well as a complete plant at Parco in Wyoming. P. & R. also has built and is operating natural gasoline plants, principally in the Rocky Mountain region, where the company also controls extensive producing and pipe line properties. Through the Kasoming Oil Company, the Prairie already has entered Wyoming and now is engaged in building up an aggressive personnel for the management of its Rocky Mountain holdings. The acquisition of P. & R. holdings in the West will fit in well with the development program planned for Kasoming Oil.

In obtaining a controlling interest in P. & R. Corporation the Prairie also would have at its disposal a complete marketing organization which now has stations and branches throughout the Middle West and Northwest as well as an efficient field sales force for refined oils.

For some time it has been reported

Teapot May Not Produce as Much as Expected

Sinclair testifies that field may reach 20,000 barrels daily—Now 5000 barrels

Washington, D. C., Oct. 30.—That the Teapot Dome naval reserve in Wyoming, now under lease to Mammoth Oil Company, in time may be capable of producing around 20,000 barrels of crude oil daily was the opinion expressed by Harry F. Sinclair of New York, chairman of the board of Sinclair Consolidated, while testifying before the United States senate public lands committee in session here Monday. Sinclair also is the directing head of Mammoth Oil, the activities of which corporation the committee now is investigating along with other developments connected with the leasing to private concerns of naval oil reserves.

Mr. Sinclair also testified that present production of Mammoth Oil was around 5000 barrels daily and that the Sinclair pipe line from Wyoming to a point in Kansas was nearing completion and would entail an expenditure of approximately $25,000,000 when it was entirely completed. He pointed out that under the terms of his company's contract with the government the construction of this line was not required until production had approached the 20,000 daily mark. The going ahead of the construction program on this line, he said, was evidence that his organization had faith in the potential productivity of the Wyoming naval reserve lands.

Hearings of the committee have been conducted since October 22, when former Secretary of the Interiar Albert B. Fall of New Mexico was called to testify as to the transfer of naval oil reserve lands from the jurisdiction of the navy department to the interior department and to explain in detail the leasing of the reserves in California and Wyoming to the Pan-American Petroleum Company (Doheny interests) and Mammoth Oil (Sinclair interests), respectively. Others who were called before the investigating committee included Secretary of the Navy Denby, Admiral Julian L. Latimer, judge advocate general of the navy; Admiral Griffin, retired chief of the Bureau of Engineering; Commander H. A. Stuart of the navy department and Commander Landis, U. S. N., retired, and others.

Reports from field surveys made in Wyoming during the spring and summer months by James O. Lewis of Tulsa, Oklahoma, and Frederick G. Clapp of New York, geologists, having a bearing on the geological formation and productivity of the Teapot Dome reserve were introduced into the testimony at the beginning of the senate inquiry which is being conducted by Senator Smoot of Utah, presiding, and also by Senators Ladd, Walsh of Montana, and Jones of New Mexico. The reports of these geologists in the main bore out the decision of former Secretary Fall in leasing the lands to prevent further drainage. However, testimony was introduced late yesterday by Chester Washburn of New York, consulting geologist, who declared that the countrary was true as to drainage.

It is understood that testimony will be introduced this week which will be calculated to further disapprove the stand taken by Fall and others in leasing the lands to one company and to contradict the contention of offset well drainage.

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here that the Prairie was looking about for a way to enter the refining and marketing business, inasmuch as the company's trade area in the sale of crude oil constantly was being narrowed and with the rise of the California fields the transportation of oil eastward was being reduced almost with the passing of each week. It was under such conditions as these that the Prairie opened negotiations with the Producers and Refiners Corporation and if the deal is consummated, as it now appears it will be, the position of the Prairie will again be established as one of the most aggressive oil companies in the business and will place the company in a position to offer direct and immediate competition, both in a refining and marketing as well as a producing way, with the Standard Oil Company (Indiana).

Fort Worth, Texas, Oct. 30.—Acquisition of the controlling interest of the entire holdings of the Producers and Refiners Corporation of Denver by the Prairie Oil and Gas Company involves oil and gas producing properties in Texas and thousands of acres of wildcat leases distributed over the state. A district office was established last year in Fort Worth by P. & R. upon the purchase of the Fensland Oil Company, which had considerable production in Wyoming and Texas fields, and T. B. Hoffer, president of Fensland, was made vice president of the P. & R. and later placed in charge of all operations.

P. & R.'s oil production in Texas is still carried under the name of Fensland Oil Company, and consists of 350 barrels of settled production on six different leases in Stephens County, while leases on approximately 20,000 acres of wildcat land in Gonzales, Montague, Victoria, Val Verde, Mitchell and other counties in Southwest Texas are held. A wildcat test is drilling below 2600 feet on a structure in Mitchell County section of West Texas.

Early this year P. & R. became interested in the Panhandle gas field to the extent of about 300,000 acres of leases scattered over Potter, Moore, Carson, Hutchinson, Oldham and Hartley counties, and took over several completed gassers. The bulk of this vast amount of acreage is proven for gas production, and its purchase afforded P. & R. a dominant position in the field. Included in the lot is a single lease for 200,000 acres on the Lee Bivins ranch, extending over the above mentioned six counties. P. & R. is now drilling three tests in various sections of the Bivins ranch in compliance with contract made, and agreed to start construction work by February 1, 1924, on a gas line capable of handling 30,000,000 cubic feet of gas daily from Moore County to Amarillo.

Extensive wildcat leases are held by P. & R. in San Juan and other counties in the Northwest part of New Mexico, and last April a 70,000,000 cubic foot gasser was completed at 2385 feet on the Ute Indian Reservation land in San Juan County. Leases are owned in the vicinity of the Mid-West Refining Company's high gravity oil producers on the Hog Back structure, and a block is also held on the Tocito structure.

Houston Morning Paper Under New Management

R. L. Dudley, president of the Gulf Publishing Company, which owns The OIL WEEKLY, The Filling Station and The Refiner and Natural Gasoline Manufacturer, was elected president of the Houston Dispatch Publishing Company, publishers of the Houston Dispatch, a morning independent newspaper, at a meeting of the board of the company this week.

Mr. Dudley's position as president of the Dispatch Publishing Company does not mean any lessening in his interest in The OIL WEEKLY, as he will give practically full time to The OIL WEEKLY, and will act as a member of the executive committee managing the Dispatch. Dale C. Rogers, president of Rogers & Gano, a well recognized advertising agency, with offices in Houston and Chicago, which is handling the advertising of some of the biggest manufacturers and distributors of oil field supplies in the world, has been elected vice president of the Dispatch Publishing Company.

F.W.C. Royalty Corp. Formed To Transact Oil Business

Houston, Texas, Oct. 30.—Formation of the F. W. C. Royalty Corporation was announced here this week. The concern is incorporated under the laws of Texas for $480,000, fully paid, and will take over interests formerly known as S. P. Farish, trustee.

Officials are S. P. Farish, president; E. E. Watts, vice president; J. A. Collins, treasurer; and L. T. Anderson, secretary. The three first officials with J. S. Rice and William M. Rice, comprise the board of directors.

Properties taken over by the new concern consists of fee lands, royalties, mineral deeds and prospective production. Activities will consist of the buying and selling of petroleum, oil lands, producing properties as well as prospective lands.

Headquarters will be in the Humble building at Houston.

London, Eng., Oct. 22.—(By Mail).—It is virtually regarded here as settled that Standard Oil Company now has a 25 per cent share of the Turkish Petroleum Company's oil concession in Mosul.

Association to Tell the World About Oil

Mid-Continent Oil and Gas Association starts national campaign on industry

GLEN BUCK has said that no cackling hen ever advertised a rotten egg. He might have added, "and got away with it."

Advertising is not a science. And yet certain inevitable laws govern it. Correctly employed to champion a just cause, increase the sale of a worthy product or build good will for a useful enterprise, advertising is an indomitable salesman. But used, however skillfully, to exploit the unworthy, it simply serves sooner or later to betray and defeat those who employ it.

Very few publishers will accept misleading or doubtful advertising. Very few advertising men will write it. I know an advertising man who maintains that the world doesn't ask you how you made your money, but how much you have. Yet this same advertising man will not accept a commission from a would-be client whose proposition is unclean or dishonest. He knows that the power of publicity, improperly employed, is a dangerous boomerang. We are living in a day when honesty has come to be an accepted part of the principle of self preservation.

In a general way the lay public understands these things. It has followed with interest the newspaper reports of federal investigations of the use of the mails for exploiting crooked oil schemes. But its reaction has not been as complete as might be supposed. It senses—this allegedly gullible public—that these activities which have incurred the displeasure of Uncle Sam are no more a part of the petroleum industry than the German mark at its present value is related to money. By which I mean to say that while your average layman may still refer to the petroleum industry as "the oil game," his mental attitude is vastly more respectful than it was a few years ago.

Educational influences have been at work. Refiners and marketers have been at infinite pains to explain the nature and extent of their activities. Consumer advertising in the petroleum industry has not been devoted solely, by any means, to the exploitation of given brands of fuel and lubricants. A very generous per cent of it has been employed to create good will through a better understanding of refiner and marketer problems on the part of the lay public. Newspapers throughout oil fields and adjacent territories report daily on local activities in the industry. All of which tends to lend an atmosphere of responsibility and solidity.

But the gradual improvement in the attitude of the general public toward the oil industry has not yet reached a point where public sentiment affords the industry any material protection from the antics of politicians who seek convenient ways to keep the public eye. The industry is very young and its forces unorganized. The recent International Petroleum Exposition and Congress at Tulsa marked the first successful effort of oil men to get together in a national way for the exchange of ideas and the formation of plans for co-operation and protection. And so the oil business has always been a ready prey to every politician ravenous for public applause. Its flanks are forever lacerated from the sharp fangs of adverse legislation and contorted administration, petty wounds for the most part, but extremely annoying, and threatening worse things to come.

In an effort to prevent unfair legislation, and to stem the tide of adverse public opinion, the Mid-Continent Oil and Gas Association has started an advertising campaign on the Oil Industry. The association in using this method to further the interests of the industry doesn't take the stand that unfair legislation is the result of unscrupulous politicians, but that the law making bodies are not always well informed. However, the campaign inaugurated by the association clearly points out that should it be necessary the oil industry has an association powerful enough to look after its own interests and to essay public opinion in its own behalf.—The Editor.

With the foregoing facts in review, the advertising campaign recently launched by the Mid-Continent Oil and Gas Association, Louisiana-Arkansas division, looms up as timely and commendable. Politicians should and perhaps do sense the presence of an organization powerful enough to look after its own interests and to essay the formation of public opinion in its own behalf, willing enough to be taxed justly, to be regulated wisely, to be controlled sensibly, but dangerously and aggressively alert to unnecessary interference and unfair legislation. And the public, without troubling to analyze its own reaction, will undoubtedly accept the sincere overture of an organization whose members want to be friends with the folks they serve, and deserve such relationship.

What the Mid-Continent has to say deserves to be quoted in full, although the space here available permits only a resume:

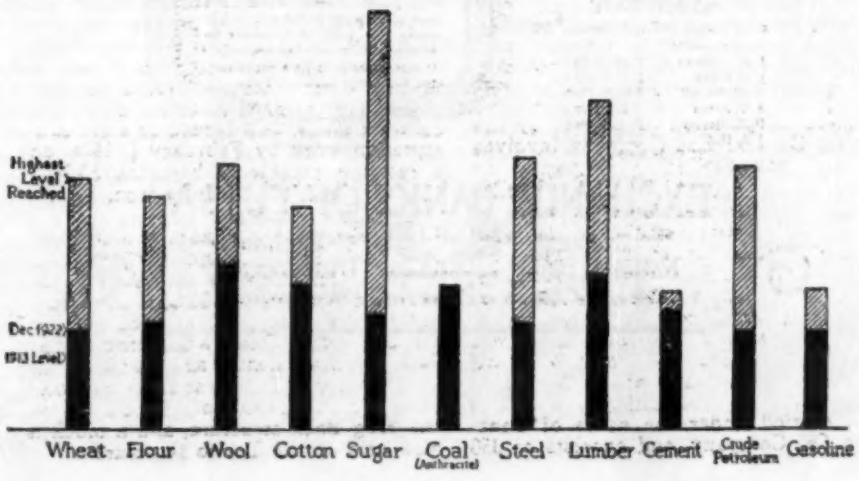
"This is the first of a series of advertisements to be published in newspapers and farm papers of Louisiana and Arkansas, sponsored and paid for by the Mid-Continent Oil and Gas Association (Louisiana-Arkansas division) with headquarters at Shreveport.

"This association is a regularly organized institution, composed of members from every branch of the petroleum and natural gas industry, and is dominated by no company, firm, group or individual. We quote here an excerpt from the constitution:

" 'Any corporation, partnership or association of persons engaged in any branch of such business may apply for membership in such organization for any number of its employes, officers or associates, not to exceed 20 in the case of any one corporation, partnership or association of persons.'

"The primary object of the association is for the stabilization of the petroleum and gas business, to help establish and maintain conservation of these great natural resources, to create and teach methods of prevention of accidents and fire, to lend assistance to local authorities in esetablishing and maintaining healthful conditions in the various oil filds, and to do any and all things for the more economical and safe conduct of the business as a whole.

"Street rumors and talk by uninformed parties have done much toward establishing in some quarters very harmful and unfair ideas toward the oil business. One of the most harmful and prejudicial expressions used is 'the oil game.' That expression had its ori-



gin with people who, as a rule, follow stock promotion and kindred endeavors, and not from concerns or individuals who labor earnestly year in and year out to produce, refine or distribute petroleum and its hundreds of by-products.

"The whole fabric of the oil industry is now and has been for many months in a situation seldom faced by any other one great line of business, viz: The constant, and in some cases successful, attempts to saddle onto the oil industry such taxes, licenses or other fees as to seriously hamper one of the most essential and necessary businesses of present times.

"Sensational and misleading advertising by unreliable and irresponsible parties and concerns who picture the oil business as a 'game,' and promise flowery beds of ease to all investors, are largely responsible for the present mental attitude of thousands of our citizens who have come to think of the oil industry as a get rich quick scheme composed of people who have gathered dollars from widows, orphans and needy people in all walks of life.

"The more truthful and legitimate version of the actual conditions is that the industry as composed today is entitled to more equitable consideration from the lay public. 'The industry' refers not to promotion schemes (which are entirely outside the scope of this association), but to the legitimate production, refining and marketing of petroleum products in all its branches.

"This industry is furnishing employment to scores of thousands of our people, and while its magnitude is very great it does not follow that there is any usurpation of rights of individuals or the public. It is true that the investment of capital is very large, but only means that the influence and financial strength of many are combined in order to further the cause of industry in general, without which our country would be without advancement, without modern means of manufacture, transportation and distribution and civilization would be many decades behind its present stage."

The first of the series of advertisements appeared in September. Daily papers were used in New Orleans, Shreveport, Little Rock and other cities. Farm papers having the bulk of the circulation in Louisiana and Arkansas were also used. Each advertisement announced the date for the appearance of the next in the series in that particular medium. The newspaper campaign ended in October. The farm paper campaign is still running.

The second advertisement in the series had to do with alleged manipulation of prices and rumors of "dollar gasoline".

"As a motorist, this concerns you greatly. You may have asked 'What truth is there in it?'

"Your own good judgment will give you the correct answer. If gasoline cost a dollar a gallon, how much would you use?

"There are 12,000,000 other motorists who feel as you do. To put the price at a prohibitive figure would lessen motoring to such an extent that very little market for gasoline would remain. Huge refineries would be idle. The petroleum industry would lose the business which it had labored 50 years to cultivate.

"To raise the price of gasoline to an unreasonable figure would be not only foolish, but impossible.

"Gasoline is the product of a competitive industry.

"There are approximately 14,000 separate and independent producers of crude oil, 450 separate refiners producing gasoline, and 4,000 separate wholesalers or marketing companies.

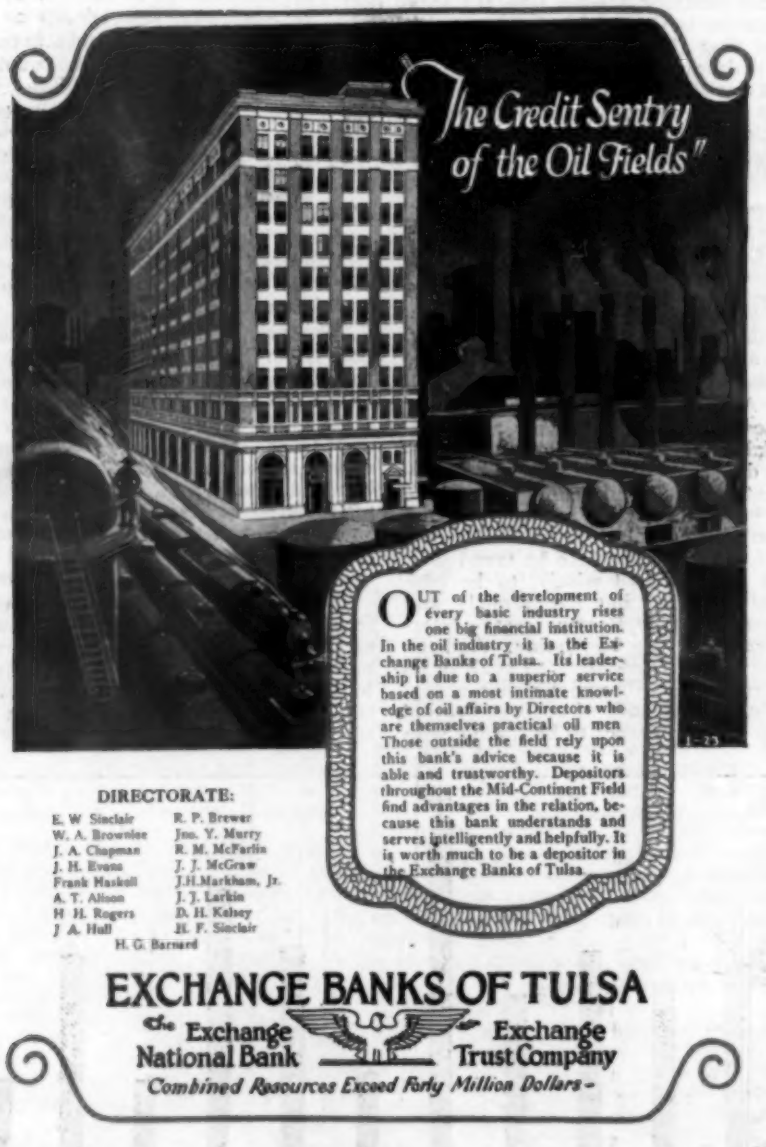
"Competition is keen. As the price of gasoline goes up, production is increased until demand is overtaken and the price falls again. As long as supplies of crude oil are ample, competition alone will keep the price of gasoline reasonable.

"The petroleum industry is making gasoline to be sold. Its chief interest lies in maintaining a market. You can depend upon the refiners to produce gasoline as economically and efficiently as possible. You can depend upon their selling it at a reasonable price, because that is good business.

"You need not fear 'dollar gasoline.' The one thing which motorists should fear is unreasonable government regulation, which would handicap the petroleum industry, as it has hindered the railroads. Such regulation would undoubtedly increase the cost of gasoline."

The third advertisement pointed out and enlarged on the fact that the average refining company makes less than one cent per gallon on gasoline.

"On an average year's consumption of 300 gallons (the average requirement for 5000 miles), less than three dollars! Compare this with the profit


"The Credit Sentry of the Oil Fields"
OUT of the development of every basic industry rises one big financial institution. In the oil industry it is the Exchange Banks of Tulsa. Its leadership is due to a superior service based on a most intimate knowledge of oil affairs by Directors who are themselves practical oil men. Those outside the field rely upon this bank's advice because it is able and trustworthy. Depositors throughout the Mid-Continent Field find advantages in the relation, because this bank understands and serves intelligently and helpfully. It is worth much to be a depositor in the Exchange Banks of Tulsa.
DIRECTORATE:
E. W. Sinclair
W. A. Brownlee
J. A. Chapman
J. H. Evans
Frank Haskell
A. T. Allison
H. H. Rogers
J. A. Hull
H. G. Barnard
R. P. Brewer
Jno. Y. Murry
R. M. McFarlin
J. J. McGraw
J. H. Markham, Jr.
J. J. Larkin
D. H. Kelsey
H. F. Sinclair
EXCHANGE BANKS OF TULSA
The Exchange National Bank
The Exchange Trust Company
Combined Resources Exceed Forty Million Dollars

Stable Basis for Natural Gas Industry In Canada Predicted for Coming Year

Windsor, Ont., Oct. 26.—Success within the next year of the efforts of the Natural Gas and Petroleum Association of Canada to place the gas industry on a stable basis was forecast by President Charles E. Steele at the fifth annual convention of the association held here today.

Upwards of 100 delegates were present at the sessions, held in the Prince Edward Hotel. The morning session, opening at 10 o'clock, was devoted to business matters.

Efforts to secure reclassification of the natural gas industry under the workmen's compensation act were urged in a report presented by Major E. F. Sweet of Brantford, chairman of the legislation committee. The report declared that the natural gas industry was less hazardous than the artificial gas and fireworks industry with which it was classified, and invited members to furnish data supporting this contention.

The report of the directors, presented by P. S. Coate of Chatham, showed that the year's work had related chiefly to the question of natural gas rates. The course followed by President Steele as representative of the natural gas interests on the rate-fixing tribunal appointed by the Ontario government was strongly supported.

A cash balance of $750 in the treasury was shown by the report of Secretary-Treasurer S. A. Morse of Chatham.

Publicity through the medium of information disseminated by an impartial organization, such as a government department, was strongly urged in a report of the publicity committee presented by Gordon D. Wickett of Windsor. The discussion emphasized the need of intelligent publicity to counteract the very general public misunderstanding of the natural gas industry.

At the close of the morning session the delegates witnessed a special showing of the film "The Story of Natural Gas."

When the convention reassembled at 2 p.m. the nominating committee, Gordon D. Wickett, D. A. Coste and J. B. McNary, presented the following slate of officers for the ensuing year: President, Charles E. Steele, Sterling Gas Company, Port Colborne; first vice president, P. S. Coate, Chatham Gas Company, Chatham; second vice president, H. R. Davis, Dominion Natural Gas Company, Buffalo, N. Y.; secretary-treasurer, S. A. Morse, Union Natural Gas Company, Chatham; directors, Perry A. Little, Buffalo, N. Y.; H. W. Braden, Hamilton, Ont.; R. L. Pattinson, Chatham; H. B. Pearson, Calgary, Alta.; I. Greenizen, Petrolia; E. P. Rowe, Toronto.

Mr. Steele has been president of the association since its organization in June, 1919. As first vice president, P. S. Coate replaces A. M. McQueen of Imperial Oil, Ltd., whose resignation, necessitated by pressure of other duties, was regretfully accepted. Messrs. Greenizen and Rowe are representatives on the directorate of the petroleum interests.

A paper on "The Future of Oil and Gas Development in Canada," prepared by Dr. Eugene Coste, was, in his absence, read by his brother, D. A. Coste.

H. S. McAdam of the Standard Meter Company read a paper on "Gas Meters," dealing more particularly with the ordinary tin-case dry meter.

A paper prepared by W. H. Kiser and R. L. Bevan on "Drilling for Oil and Gas" was read by Mr. Bevan.

A strong resolution was passed urging the removal of the customs tariff against the larger sizes of casing, in order to encourage oil and gas development in Canada.

Hamilton, Ontario, was named as the meeting place for 1924, the date being left to the executive to decide.

At 6:30 the annual banquet was held in the ball room of the Prince Edward Hotel. President Steele was toastmaster of the evening, and in his president's address confidently predicted that the efforts to secure more adequate rates for natural gas, already productive of some results, would be crowned with complete success before the next convention.

Douglas Malloch of Chicago gave his address on "Average Men" and there was an excellent musical program.

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on any other commodity of which you have knowledge.

"You and your fellow motorists pay this profit of less than a cent a gallon —or less than a nickel on a five gallon purchase—for what?

"For going out into the oil fields and in competition with some 450 other refiners producing or buying to the best advantage enough crude petroleum to take care of the business needs. For investing more than a hundred million dollars in refining equipment, maintaining an organization of over 9700 employes, devising scientific ways and means for economically extracting the greatest amount of good gasoline from every barrel of crude oil.

"For finding an outlet market for the many other products of the crude petroleum so the price of gasoline may be kept down to the minimum. For carrying sufficient stocks of gasoline to provide for all emergencies, and especially for the seasons when consumption exceeds production.

"For maintaining a wholesale distributing system — warehouses, storage tanks, tank trucks, etc.—that will assure the delivery of gasoline where you can conveniently get it any time you need it.

"For this service—so perfectly organized that you are scarcely aware of the intricacies behind it—they receive, on an invested capital of over a hundred million dollars, a profit of less than a cent a gallon. Is it too much?

"These figures are typical for the industry."

The fourth advertisement in the series took up the cost and cost fluctuations of gasoline as compared with the cost and cost fluctuations of other commodities.

"At no time during or after the war," it points out, "did the price of gasoline skyrocket. When you were paying two and three times what you had been accustomed to pay for food, clothing, rent and building materials, gasoline for your motor cost little more than before the war. Even crude petroleum, from which gasoline is made, rose much higher than gasoline itself.

"Gasoline is cheap today compared with other commodities and with 1913 prices. Look at the chart shown below. It pictures the present prices of a number of staple commodities compared to pre-war levels; also the maximum or peak price reached by each during this 10 year period."

Just here in this fourth advertisement the association drives home a point that every layman and every oil man should ponder:

"Have you ever considered why the price of gasoline has been held down? Here is the reason:

"The companies have been carefully and efficiently managed under private ownership. They are not hampered by expensive government regulations, but have been left free to serve the public with initiative, energy and economy.

"Gasoline is cheap today. Government interference could result only in additional burdens on the industry and an increase in the cost of all petroleum products to you."

Following closely on the heels of number four in the series of advertisements with its discussions of the low price of gasoline, came number five bearing the caption: "It costs nearly three times as much to produce a gallon of gasoline now as it did in 1913!"

The last two paragraphs read: "Yet, with multiplied costs and the multiplied demand of millions of additional cars, the refinery price of gasoline today is only about one third more than in 1913.

"It is only by intensive application of economy in manufacture, thoroughness in organization and efficiency in management, that the industry is able to supply you with uniformly high quality gasoline at a competitive market price—and still make some profit for its stockholders."

With memory of government control of railroads still fresh in the public mind, those last two paragraphs carry a subtle and well founded warning.

The sixth of the series dealt with the law of supply and demand, and how that law governs the price of cotton, wheat, sugar, rubber, and other commodities—including gasoline.

"We hope every user of gasoline will read this," the advertisement ends. "When you see a change in price marked at a pump, please remember that the price is not fixed arbitrarily, but is governed by a law over which we have no control. This law operates similarly everywhere in the United States.

"A large part of the oil business is the distribution and sale of gasoline. The more we can sell, the better it is for us. Therefore, it is to our interest as well as yours to keep the price of gasoline at a reasonable figure so that you will use more and buy more."

The seventh advertisement in the series had to do with "Taxes and Gasoline." You will note that it again points out the advantages of private owner-

(Continued on page 48.)

Will Prairie Deal Affect Crude Market?

Company is now able to take care of a large part of the crude being bought

Tulsa, Okla., Oct. 31.—Viewed from this end, the deal between the Prairie Oil and Gas Company and Producers and Refiners Corporation is a desirable move from the standpoint of the two companies, but may later react to the detriment of the independent oil producer in the Mid-Continent field.

That the Prairie virtually was forced to extend its activities so as to include refining and marketing organizations to provide an additional outlet for the company's crude oil is generally admitted here. Within recent months, or from the time the California fields began to assume threatening proportions from a production standpoint, several of the Prairie's largest buyers of Mid-Continent oil have made other arrangements for their crude, notably Standard Oil Company (New Jersey). The expansion program which Sinclair Crude Oil Purchasing has been undergoing for the past year and a half and the company's pipe line connection to the Wyoming fields well on its way to completion has already reacted to the benefit of Standard Oil Company (Indiana) which owns a half interest in the purchasing corporation. So that today this Standard Oil Company—one of the largest customers of the Prairie—is buying less Mid-Continent crude from the Prairie than ever before and the chances are that with the completion of the Rocky Mountain project still less oil will be bought outside the Indiana company's own agencies.

Thus, the two largest buyers of Prairie crude oil are weaning themselves away from their principal source of supply in the past and are making their own arrangements for the oil. And at considerably lower prices than heretofore.

With its own refining and marketing facilities the Prairie can make use of considerable of the crude the company is in a position to buy through its extensive connections in the Mid-Continent. With the acquisition of the P. & R. producing properties in the Mid-Continent and in Wyoming and with the potential crude production of the Prarie's own company in the Rocky Mountain region—the Kasoming Oil Company—there will be more than enough crude to go around. Provided that the Prarie's outside market for the sale of crude continues to be restricted, as has been done for some months and still is being done, then the company will find itself with more oil on hand than it can dispose of at a profit. This being the case, the company will of necessity be forced to restrict its oper. purchases from independent producers and there is a likelihood in the event such comes to pass that the Prairie will not be the one dominating factor in the Mid-Continent crude market as it is today.

That the Standard Oil Company (Indiana) does not propose to halt its production activities with the acquisition of the Wewoka properties of the Oklahoma Company (R. H. Smith interests), in the event other producing properties can be acquired at a fair price, is well known here. This company may reasonably be expected to further expand its production activities until that branch of the business has been strengthened to the point its refining and marketing branches now are strengthened. When this comes about, if it does, the Indiana company will be virtually free from the purchase of crude from sources other than its own.

Another corporation that is making considerable strides in the producing and refining ends of the business and is about ready, so reports go, to launch a sizeable marketing program, is the Roxana Petroleum Corporation (Royal Dutch-Shell interests). This company now is completing at Arkansas City, Kansas, one of the best equipped refining plants in the Mid-Continent, if not in the entire country, and as soon as conditions are ripe it is understood that stations of distribution for Shell products will be established throughout the Middle West and possibly northern and eastern sections as well. Connections with Marland through the Comar Oil Company already have put Roxana well up in the front of the larger producers in this section and the company, through its own organization, is spreading out in the Mid-Continent almost from day to day. This is a concern that is doing things in a really big way and is saying nothing about it—just sawing wood.

With this kind of a line-up staring the independent producer in the face at a time when the winter months are about here and when crude market conditions are not the best in the world, it is a three-cornered situation that presents itself. Augmented by the P. & R. holdings the Prairie will occupy a dominant position in all branches of the business and will offer direct and positive competition to the Standard Oil Company (Indiana). This last named company is putting forth every effort based on good business to establish itself in the production end, it being already well grounded in the refining and marketing ends. And with the Roxana building up a refining and marketing organization in the Middle West that undoubtedly will provide much competition for both the Prarie and the Indiana company.

In this struggle for domination where will the small independent be? To answer this question now is to hazard a guess, which is that before the spring months of 1924 have come around there will have been several sizeable mergers and combinations effected, not only between independent concerns, but between Standard Oil organizations and independents as well. That is if the price is right and there is a willingness to trade.

CONDENSED U. S. PRODUCTION

The daily average production of the fields of the United States for the past week follows:

	Barrels
Mid-Continent (Oklahoma, Kansas and North Texas)	937,610
California	801,000
Texas	583,200
Oklahoma	388,605
Wyoming-Montana	145,250
Arkansas	130.210
Eastern States	107,500
Kansas	70,650
Louisiana	65,170
Total	2,291,585

(Detailed figures on page 36.)

Australian Development To Be British Controlled

Washington, D. C. — Only British subjects will be granted oil or coal leases or prospecting permits in the Northern Territory of Australia, according to advices just received by the Petroleum Division of the Department of Commerce, and in the case of companies, two-thirds of the shares must be held by British subjects. These restrictions were adopted recently by the Mining Department of the Northern Territory, it is stated.

The regulations stipulated that all applications for licenses to prospect for mineral oil must be accompanied by a fee of 10 pounds and give full particulars of the applicant; that a plan of the area applied for must be lodged; that every licensee commencing boring operations must keep an exact record of the nature of the earth or rock passed through, a journal of methods employed, and particulars of clay, cement, and other materials introduced into the bore; that under mineral oil leases the lessee must employ at least one white man to every forty acres during the first two years, and at least one white man to every twenty acres thereafter; that drilling plants must be erected within six months to the minister's satisfaction and abandoned bores must be satisfactorily plugged.

L. P. Garrett Resigns Place With Gulf Production Co.

Houston, Texas, Oct. 30.—L. P. Garrett, assistant to the vice president of the Gulf Production Company, has resigned, effective November 1, to become associated with the Tidewater Oil Company of Arizona. His headquarters will be in the West Building at Houston.

Garrett will continue a relationship with the Gulf organization, serving in an advisory capacity on geological matters.

New York, N. Y., Oct. 30.—Cable advices from Moscow are that both the Standard and Sinclair interests have approached the Teheran government for concessions in the northern Persian fields.

CRUDE AND REFINED MARKET QUOTATIONS

Crude Oil Prices

October 29—Effective today, Magnolia cut the price of Corsicana (light) crude twenty-five cents. It was also announced that until further notice one hundred per cent of the runs will be taken at the prevailing prices. The Magnolia also extended its North Texas purchasing basis to Oklahoma and Kansas.

EASTERN STATES

	Nov. 3 1923	Nov. 4 1922
New York Transit	$2.75	...
Bradford (Pa.)	2.75	...
Other Pa. grades	2.50	3.00
Cabel	1.35	1.86
Ragland	.75	1.00
Corning	1.45	1.75
*Somerset, heavy	1.25	1.71
*Somerset, light	1.40	1.96

*Six cents above posted price since October 1, 1922.

CENTRAL STATES

Illinois	1.47	1.77
Indiana	1.48	1.78
North Lima	1.68	1.98
South Lima	1.68	1.98
Plymouth	.85	1.15
Princeton	1.47	1.77
Lodi	1.50	...
Waterloo	.95	1.25
Wooster	1.50	1.90
Western Kentucky	1.20	1.65

MID-CONTINENT

(Oklahoma, Kansas and North Texas)

Below 33 gravity	.90	...
33 to 39.9 gravity	1.30	...
40 gravity and above	1.75	...

(Magnolia Prices)

Below 28 gravity	.50	...
28 to 30.9 gravity	.70	...
31 to 32.9 gravity	.90	...
33 to 39.9 gravity	1.10	...
40 gravity and above	1.25	...

NORTH CENTRAL TEXAS

Corsicana (Light) (Magnolia)	.75	...
Corsicana (Light) (Other companies)	1.00	1.00
Corsicana (Heavy)	.50	.65
Thrall	1.00	...
Powell Field	1.00	...
Mexia	1.00	1.25
Currie	1.00	1.50

(Humble Oil & Refining Co.'s Prices)

Below 30 gravity	.80	...
30 to 32.9 gravity	.90	...
33 to 35.9 gravity	1.00	...
36 to 38.9 gravity	1.15	...
39 gravity and above	1.30	...

(Texas Company's Prices)

Below 33 gravity	.90	...
33 to 39.9 gravity	1.10	...
40 gravity and above	1.25	...

SOUTH TEXAS

Rockdale-Minerva

Below 38 gravity	1.05	...
38 gravity and above	1.15	...
Mirando	.75	...

SOMERSET

(Posted by Grayburg Refining Co.)

	Nov. 3 1923	Nov. 4 1922
Below 28 gravity	.65	...
28 to 29.9 gravity	.80	...
30 to 32.9 gravity	.90	...
33 to 34.9 gravity	1.00	...
35 to 36.9 gravity	1.15	...
37 to 38.9 gravity	1.35	...
39 to 40.9 gravity	1.55	...
41 gravity and above	1.75	...

GULF COAST

All grades except Grade B at Blue Ridge and Pierce Junction	1.00	1.25
Blue Ridge (Grade B)	.90	.80
Pierce Junction (Grade B)	.90	.80

LOUISIANA-ARKANSAS

Caddo

38 and above	1.25	1.25
35 to 37.9 gravity	1.15	1.15
32 to 34.9 gravity	1.10	1.10
Below 32 gravity	.75	.75

Smackover

26 gravity and above	.75	...
25 to 25.9 gravity	.60	...
24 to 24.9 gravity	.50	...
Below 24 gravity	.40	...

Homer

35 gravity and above	1.25	1.25
33 to 34.9 gravity	1.15	1.15
31 to 32.9 gravity	1.10	1.10
Below 31 gravity	.75	.75

Haynesville

33 gravity and above	1.10	1.10
Below 33 gravity	1.00	1.00

El Dorado

33 gravity and above	1.25	1.25
Below 33 gravity	1.10	1.00

Bull Bayou

38 gravity and above	1.15	1.15
35 to 37.9 gravity	1.05	1.05
32 to 34.9 gravity	1.00	1.00
De Soto Crude	1.25	1.25
Crichton	.90	1.00
Bellevue	.75	.75
Jennings	1.00	1.25
Vinton	1.00	1.25
Edgerly crude	1.00	1.25

Stephens District (Atlantic)

30 gravity and above	.85	...
28 to 29.9 gravity	.80	...
26 to 27.9 gravity	.75	...
23 to 25.9 gravity	.65	...
Below 23 gravity	.50	...

WYOMING-MONTANA

Wyoming

Elk Basin	$1.35	$1.20
Grass Creek	1.35	1.20
Rock Creek	.90	.80
Lance Creek	1.20	1.20
Mule Creek	.75	.60
Big Muddy	.75	.70
Salt Creek	.90	.70
Osage	1.20	1.20
Hamilton Dome	1.35	....
Pilot Butte	1.10	....
Landers	1.10	.37½
Torchlight-Greybull	1.35	....

Montana

Sunburst	.70	.75
Cat Creek	1.35	1.20

CALIFORNIA

(Crude Oil Prices at the Well)

Los Angeles and Orange Counties

14 to 19.9 gravity	.60	.60
20 to 20.9 gravity	.61	.63
21 to 21.9 gravity	.62	.67
22 to 22.9 gravity	.63	.73
23 to 23.9 gravity	.64	.80
24 to 24.9 gravity	.65	.88
25 to 25.9 gravity	.66	.96
26 to 26.9 gravity	.67	1.05
27 to 27.9 gravity	.68	...
28 to 28.9 gravity	.69	...
29 to 29.9 gravity	.70	...
30 to 30.9 gravity	.71	...
31 to 31.9 gravity	.72	...
32 to 32.9 gravity	.73	...
33 to 33.9 gravity	.74	...
34 to 34.9 gravity	.75	...
35 gravity and above	.76	1.85

CANADIAN CRUDE

	Nov. 3 1923	Nov. 4 1922
*Petrolia	2.08	2.38
*Oil Springs	2.15	2.45

*Plus 52½ cents bounty.

Refined Prices

Group Three Territory

(In tank car lots, f.o.b. Group Three, Oklahoma, refinery or freight rate adjusted. Prices quoted prevailed at the beginning of the week.)

Gasoline and Naphtha

50-52 450 end point Naphtha	6	6¼
56-58 450 end point	6¼	6½
58-60 437 end point (New Navy)	6½	6¾
60-62 400 end point	8	8
64-66 370-375 end point (export specification)	9¼	9½
68-70 350-360 end point	10¾	11

Natural Gasoline

Grade A 72-78, not over 375 end point, rec. 90 per cent	7¾	8
Grade B 76-82, not over 375 end point, rec. 85 per cent	7½	8
Grade C 80-88, not over 350 end point, rec. 78 per cent	7¼	7½
Grade D 88-90, not over 350 end point	7¼	7½

Motor Natural Gasoline (Blends)

Grade 1 58-62, not over 437 end point, rec. 91 per cent	6½	7
Grade 2 58-62, not over 450 end point, rec. 90 per cent	6½	7
Grade 3 64-66, not over 440 end point, rec. 88 per cent	6¾	7¼
Grade 4 66-70, not over 435 end point, rec. 85 per cent	6¾	7¼

Neutral Oils

70 Vis. @ 100, No. 2	4¾	5¼
70 Vis. @ 100, Nos. 2½-3	4¼	4¾
100 Vis. @ 100, No. 2	5¾	6
100 Vis. @ 100, No. 3	5½	5¾
150 Vis. @ 100, No. 4	10½	10¾
200 Vis. @ 100, No. 3	13¾	14¼
200 Vis. @ 100, No. 4	12½	13
200 Vis. @ 100, No. 5	12½	12¾
240 Vis. @ 100, Nos. 5 and 6	14	14½
280 Vis. @ 100, No. 6	15¼	13¾
300 Vis. @ 100, No. 6	16¼	16½

Cylinder Oils

600 Bright Filtered	28	32
600 Light Filtered	16	17
600 Steam Refined, olive green	6½	7
600 Steam Refined, dark green	5½	6

Burning Oils

41-43 Kerosene A. T.	3¾	4½
42-43 Kerosene A. T.	4¼	4½
38-40 Lt. Straw Distillate	3	3¼
38-40 P. W. Distillate	3¼	3½

Wax

124-126 White Crude Scale (lb.)	2¾	2⅞

Fuel Oils

32-36 Gas Oil	2½	2½
24-26 Fuel Oil (bbl.)	77½	82½
Buyers' Cars	75	80

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Mail It Now

The Human Element of Fire Prevention

Co-operation between rule makers and rule obeyers necessary in oil fires

By Grady Triplett

THERE is a human element in fire prevention. All the equipment and all the regulations known to have merit are useless without a willingness on the part of employes to use them. So fire prevention gets down to a question of the relation of executives to employes.

Other industries have this problem. It enters into many things besides fire prevention. Co-operation, a time worn word, expresses what the executive seeks in striving to have employes take up safety methods, whether it is in fire prevention or injury to workmen or the proper use of materials and equipment.

Welfare departments, personnel divisions and similar activities of industry are the means adopted to bring about the desired relationship between the worker and his employer. The oil industry has adopted these to a limited extent but seems to be cautious of going as far as other industries. This is no doubt the result of the appreciation of a delicate situation.

The worker in the oil fields comes from a class that desires no pampering. Executives, many of whom came from such ranks, know this and they are determined not to introduce activities that will be resented. This fact may be the reason no code of fire prevention ever has been adopted for the oil industry. It is not considered wise to impose regulations.

Meeting Mr. Smith

There are some "unwritten laws" about fire and its prevention. Here is a true report of an incident showing one of these laws, also the above point of the delicacy with which executives go about enforcing rules.

An executive, whose name was not Smith, was once with a party passing through a tank farm near a refinery. Behind one of the tanks, some men were found smoking.

"Don't you boys know better than to smoke here?" he asked.

They smiled, indicating they did know better.

"What would happen, if you were caught?" he asked further.

"Nothing," one man replied, "unless that old crab Smith caught us."

This executive played the good fellow. He passed on, showing that he was not the type the employes thought.

"You should have fired the whole bunch," a member of the party stated.

"No," replied the executive, "but perhaps I should have told who I was and let them know that I had no desire to fire men but did have a desire to prevent fire, protect their lives and save oil."

Here is another report of a conversation between the managing officials of an oil company. This concern had several disastrous field fires, some of them resulting from smoking on the derrick floor. The men who investigated all this recommended that a rule be established that no smoking be allowed on one of the company's leases regardless of the depth of holes or any other condition.

"No," replied the higher officials. "Men would resent that. There are times when there is no danger in smoking. It may take a long time but it will be better to work to have the men appreciate the fact that they can smoke at the proper times but that it should be discontinued when there is danger."

That seems to be the goal the oil industry is seeking in the matter of fire prevention. Leaders of the industry are striving to bring workers to realize the value of fire prevention rather than imposing hard fast rules, which would be broken at every opportunity.

The accompanying article is the fifth of a series on fires, how to prevent them and how to extinguish them, written by Mr. Triplett, who has been connected with the editorial department of The OIL WEEKLY for several years. The first of the series appeared in the October 6 issue.

The OIL WEEKLY invites letters from its readers with reference to methods that they have used to extinguish fires. All such letters will be gratefully received, and those available for use will be published, either with or without the writer's name, according to his desire.—The Editor.

An asbestos suit for oil fire fighting.

Fire prevention is being taught rather than enforced.

The Fire Prevention Punch

And the method is bearing fruit. Field forces have many men, who appreciate the situation and they are willing to go the limit to do what is fair and proper.

An incident reported from one of the Texas fields shows how drilling crews are taking up the efforts to prevent fires. A man from another lease came on a derrick floor, where a well was being completed, showing some gas. He watched for a while, then produced a cigarette and was ready to strike a match when a member of the crew landed a blow that was a knock out.

The offender got up but there was no renewal of the battle. The two men continued friends. The effort to strike the match in that place was due to thoughtlessness. While knock out methods may not be desirable to gain ends, they are necessary when a disastrous fire is promised.

The valuable point of the incident is that one man had come to appreciate the danger of such an act to the extent that he would act quickly and effectively. His thoughts were on fire and its prevention at that stage of the well.

Fatal oil field fires may be to some extent responsible for this attitude of crews. The loss of life is an expensive method of learning a lesson but it is better to learn at such cost than to have the disasters, without profiting in any way.

Loss of Life

While the loss of property presents a staggering total to the oil industry, it is the loss of life and the injury of men that is the chief concern of the men striving to reduce fires through methods of prevention. The property loss can be expressed in figures. The loss of life has no way of expression.

The day of no oil field fires will never come. But each day can be one of fewer fires. Since that is possible, fire prevention is worth the effort. And it seems that the surest means of overcoming some of the fire hazards is through the adoption of methods now used and the learning of other methods.

That all this can be attained through an understanding between workmen and executives, efforts are now bent in this direction and appreciable results are being gained.

Results accomplished by the Humble Oil and Refining Company furnished proof that proper methods will bear fruit in seeking the co-operation of workmen in preventing fires. Fire prevention is one of several results sought for in the Humble scheme. It all comes under the work of the safety department.

A system of placing placards on all Humble properties, following each accident or fire is the big part of this work. After a disaster, a picture is taken. If possible the negligence of the workers is shown, as well as the correct method of preventing fires. Or a fire placard may be prepared by devising the condition wanted in the pic-

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ture. Whatever the incident that prompts the picture, it is the purpose of the safety department to make fire prevention a common theme on the company placards.

Two of these placards are furnished each week, these supplementing two used from the service of the National Safety Council. These placards are but a small part of the safety work for the company and the fire placards are but a small part of the placards put out.

But the efforts at fire prevention bear fruit, just as the whole safety program bears fruit for the company.

Originality Necessary

Every oil fire presents conditions that require that methods of extinguishing it be devised at the scene. For that reason it is useless to attempt recommendations for oil field fire fighting. There are, however, some fundamentals of extinguishing oil fires and all attempts to extinguish a blaze should be made with these fundamentals in mind.

Water, the agent instantly available, has only a limited use in fighting oil fires. Since it is not miscible with oil, it gives the oil and fire a chance to spread when played on burning oil that has opportunity to run over a lease. Even when burning oil is within a levee, water may reach the boiling point and cause "eruptions" throwing the hot oil back on the fire fighters.

But water has its places in oil fire fighting and when properly used is of immense value there. The cooling property of water is all that is worth while; in fact water extinguishes a blaze by cooling the flaming mass below the burning temperature.

Water serves its best purpose around an oil fire in protecting men while they work to place the devices that may be selected for conquering the blaze. It also is of value in cooling surrounding materials to protect them. Where pipes or other iron products are used in conquering a blaze, water can keep these cool as they are placed and after they are placed.

Unless sufficient water can be introduced to quench a blaze instantly, it is not best to apply it to burning oil.

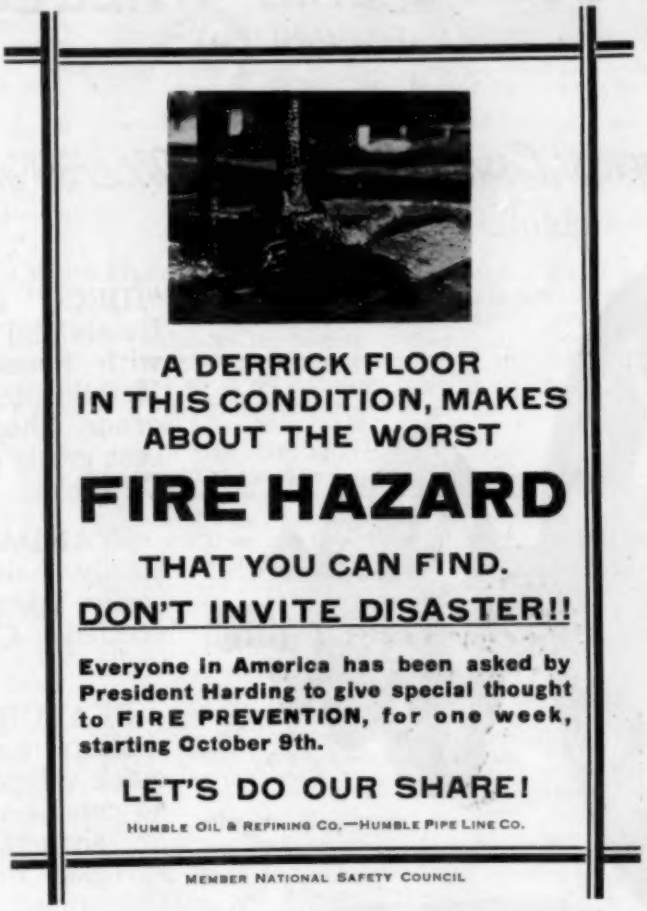
Mud, which is almost as convenient as water in an oil field, is one of the best known agents for putting out a fire. It has the cooling properties of water. But it cakes instantly and does not offer a spreading liquid on which the blazing oil can spread to larger areas. Mud, after cooling, also leaves only a non-inflammable substance near the fire.

Mud, however, can not be applied with the freedom of water or steam. Its best use is for a fire that is confined to the ground, or in cases where a blazing well has left a crater. Examples of the effectiveness of mud for such fires are numerous in the oil industry.

In the fields drilled by rotary methods, mud is always available in case of fire. And mud of the type used in rotary drilling is effective in conquering fire. In cable tool fields, mud may have to be mixed in some instances. "Thin mud" is what is recommended for fire fighting.

Steam has conquered more oil fires than any other agency. In many instances where it has failed, its backers claim it would have been effective had it been properly used. These contentions, of course, can never be determined but it is a fact that steam is of more worth when properly used, than when applied to a fire after the fashion in which it is sometimes misused.

It is not the force of steam that quenches a fire. While this opinion is not common, instances are numerous in which the effort has been made to "blow the fire out" with steam. Such efforts often result in the failure of steam to conquer a fire, when its use in a different manner may have brought success.


A DERRICK FLOOR
IN THIS CONDITION, MAKES
ABOUT THE WORST
FIRE HAZARD
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DON'T INVITE DISASTER!!
Everyone in America has been asked by President Harding to give special thought to FIRE PREVENTION, for one week, starting October 9th.
LET'S DO OUR SHARE!
HUMBLE OIL & REFINING CO.—HUMBLE PIPE LINE CO.
MEMBER NATIONAL SAFETY COUNCIL

The type of bulletin that gets co-operation from employes of the Humble Oil & Refining Co.

Smothering vs. Blowing

By excluding atmosphere from a blaze, steam shuts off the supply of oxygen, "smothering" the fire. This is the only fire extinguishing quality of steam, except its cooling effect after condensation. So instead of applying steam under force, its best effect is when it is applied so it will form a canopy of steam around a blaze. If that can be maintained, it will quench a fire.

The steam best suited for fires comes from the bottom of the boilers. Men successful in using steam, attach large lines to the bottom of the boilers, letting the steam escape under low pressure. Under these conditions "wet" steam rises around the burning well or pit, coming in contact in the air and forming the canopy, with walls and top holding back the atmosphere, the only condition that will kill a fire with steam.

Boilers for such use are placed so they will encircle the burning well. If this is not possible, lines can be run to give as nearly a complete circle as can be had. Then with boilers fired, the steam from all can be let loose simultaneously. The steam, some water and perhaps mud, if the lines are on the ground, discharge at the well, the force being so little that there will be none of the "blowing out" the blaze effect.

Another method of using steam has been successful when only a few boilers are available. This is to set the boilers on opposite sides of the well. Lines are then placed, the one at one side discharging at a point lower than those from the other side of the well. Frequently a line from a boiler is turned to discharge downward over the well.

Breaking the Flow

The purpose of this arrangement is to break the column of burning oil by having the steam from either side discharging at different levels. This steam then rises to form the canopy effect, first causing a void place either in the flowing oil or the blaze and thus reducing the volume of the blaze.

The arrangement of boilers, means of getting lines near the well and other details must be determined by ground and other conditions where a fire happens to be burning.

A man experienced in fighting fires in oil fields, when asked what he would first do if given a fire to extinguish, replied, "I'd get every man with fire fighting experience and hold a conference."

Such is common in fire fighting. Men of experience combine in their efforts, for an oil field fire frequently becomes a common menace, scores of men from dozens of properties being collected to fight the fire, the work often being directed by a half dozen men of experience.

There are some things to be done first in the fight of an oil fire. While it is not possible to give directions on how they should be accomplished, they can be listed.

Confine the fire to the smallest possible area. That is a fundamental in fighting an oil fire. One means to this end is the building of a levee around the fire. Frequently the levee must be constructed over a wide area, because of heat, the men working under the protection of water streams. This levee construction can be continued, each round of the well drawing the levee

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smaller and smaller, until it is as near the well and fire as men can work.

The value of a levee has other advantages than confining the fire to a small area. A levee affords a means of attempting to place a nipple over a well, where such a method is adopted, to stop the fire. The elevation of a levee is frequently a help in later fighting a fire.

Move the Debris

Another fundamental of fire fighting is to remove all foreign substances from the scope of the fire. Where a lease has been cleaned when the well was started and kept clean during drilling, this will not be necessary. But fires seem to pick the wells that are not on clean leases.

So along with confining the fire to a small area, every foreign substance, whether wood or steel, should be taken away from any possible scope of the fire. Grappling hooks, attached to wire lines are good for this.

The presence of pipe and tools around a burning well frequently has made a bitter fight of what should have been an easy task. In such cases the blazing oil has been found easy to quench but the heat of the iron and steel in surrounding debris has been sufficient to reignite the oil that continued to flow, with the blaze extinguished.

While no attempt is made to work near an oil fire without the aid of shields, it is not commonly known that the value of these can be increased through the selection of proper materials. Even in the matter of color, their value can be increased. Light colors reflect heat, while dark colors draw heat. A piece of galvanized iron of light color will give more protection to workmen than will shields of iron of dark color.

The Good Shield

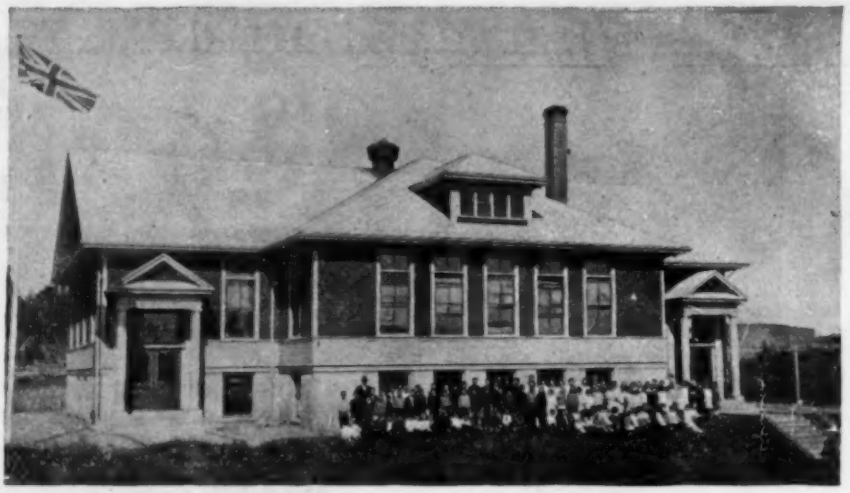
An ideal protection can be made from asbestos and light colored galvanized iron. The iron should be placed in front with the asbestos for a facing, men working behind this. This shield gives the effect of reflecting the heat by the iron, while the asbestos is an insulation that prevents the heat not reflected from reaching men behind it.

These recommendations, of course, are of value where it is possible to make selections of materials for shields. In most instances an oil fire has to be fought, using whatever materials are at hand and that fact makes each of them an individual problem.

Where a burning well is flowing into an open pit, the fire can be reduced and some oil saved through the use of over-sized pipe, placed over the flow pipes. A pit fire can be reduced through siphoning oil from the bottom of the pit.

Whatever the work done previous to the actual fighting of the fire, the history of oil fire fighting is that the proper preparation is half the battle.

Leland V. Stanford, vice president of the Sinclair Refining Company of New York with headquarters at New York City, arrived in Beaumont last week via the water route and visited in Houston. Stanford accepted an invitation from friends for a hunting trip before departing on a tour of the oil fields and refining centers in the upper part of the state and Oklahoma.



Group picture showing the pupils of the Imperoyal School, which was built and is maintained by the Imperial Oil Company, Limited.

Big Canadian Oil Company Watches After Employes' Children—Operates School

PROVING again that large corporations are not merely money grabbers but to the contrary are deeply interested in the human element part of their enterprise, here is a story of what a great oil company is doing to increase the happiness and welfare of the people working for it.

Some four years ago, officials of the Imperial Oil Company, Limited, sensed an unpleasant situation at their refinery near Halifax. Several hundred men were working for the company. The majority of these men were heads of families, and the children belonging to these families were not provided with what is every child's heritage—the opportunity for an education. Such a situation was sinister, and officials of the Imperial Oil Company saw it that way. Their seeing was backed up by action, and today the Imperoyal school at Imperoyal, just across the harbor from Halifax, is the result.

Physical Equipment

The building was built in 1919-20. It is situated on an elevation within the confines of the refinery. Three large rooms and a basement comprise the schoolhouse which is 88 feet by 64 feet and six inches. The building is well lighted and ventilated, and is neat in appearance. Modern heating and plumbing make it a model for sanitation. The furnishings are the best that money could buy, and the rooms are as attractive on the inside as the building is from without.

In the basement, which is well finished, play rooms are provided for girls and boys, and one room is set aside for Boy Scouts and Girl Guides to use in their activities.

Accommodations

Accommodation at the school is 150. The school is operated primarily for children belonging to families of refinery employes and these are looked after first. Then if there is room, children of non-employes are allowed to attend.

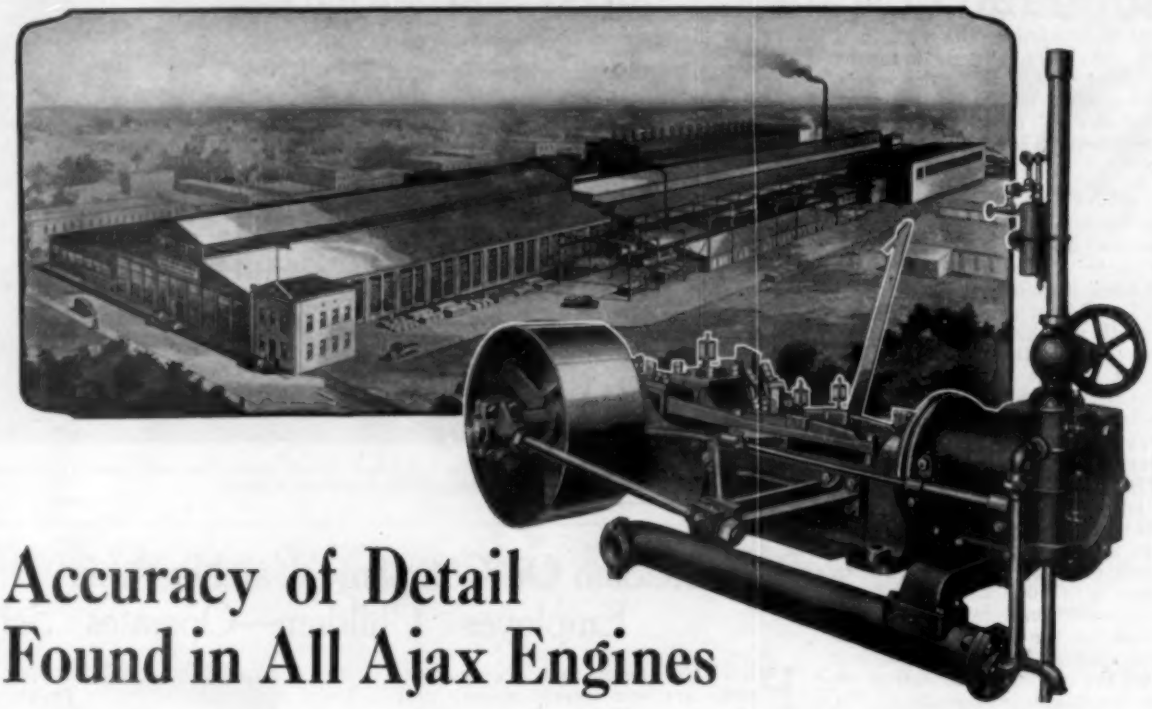
The school was erected and is operated by the Imperial Oil Company, Ltd., although courses covered are those of the Province of Nova Scotia. Teachers are employed on the recommendation of the Education Department of the province, and all teachers in the school are qualified graduates. This gives the school the same standing as though it were operated under direct supervision of the Department of Education, and children completing courses of study in the refinery school are not handicapped by lack of affiliation with the organized system of education of Nova Scotia. Text books are provided the children free of charge, and there is no tuition. All expenses of the school are borne by the company.

Community Center

Moving pictures are shown in the school building one evening of every week during the winter. Children and their parents are allowed to attend these shows without expense. The films are provided by the company and are of the best obtainable, from the standpoint of education and amusement. That the superintendent of the refinery believes the effort of providing pictures worth while can be seen from his statement: "I cannot, however, let the occasion pass without stating how much the films shown here each Friday evening, have been appreciated during the entire season. Taking into consideration the weather conditions which have been extremely severe during the winter, we estimate the number of people attending, especially the young people, would average 200 each show, for the season. The great interest shown by our people in the pictures, I feel, is an incentive that they should be carried on next season, as it is well worth the expenditure involved."

Loan Library

There is a free loan library in connection with the school from which boys and girls may secure good, clean, healthful books. The books may be borrowed on the regular library plan, and taken to the children's homes.



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Look for Deeper Sand at Corsicana-Powell

Operators may go below Woodbine in effort to find new pay—Exploration work planned

By H. H. King

Corsicana, Texas, Oct. 29.—The proven existence of more than one producing horizon in the Mexia and Currie fields from the Woodbine formation has given rise for much speculation as to the possibilities of a deeper pay being uncovered about 100 feet or more below the present prolific Woodbine sand in the Corsicana-Powell field, and steps towards the exploration of the lower formations are sure to be undertaken when the present flood of flush production subsides. Although the lower producing sands in Mexia and Currie fields have only been tested in a limited area, the most favorable results were obtained on the so-called backbone of the long structure, and indications are that this deeper sand is not as great in area as the upper and most prolific pay.

The Mexia, Currie and Corsicana-Powell fields, in the order named, are in a general broken line extending to the northeast across Limestone and Navarro counties, and obtain production from the Woodbine formation. The Mexia field is known to have three distinct prducing sands, with the bulk of production coming from the second pay level and only a minimum quantity of oil in the top sand, while the Corsicana-Powell field forms a marked contrast by furnishing all of its production from the deep pay in the first of the Woodbine series, with unknown quantities from the remaining series.

Greater Prosperity

According to students of subsurface formations in these three fields, the Woodbine sand in the south end of the Mexia district is crowded with numerous layers of shale formation, but becomes cleaner with more uniform porosity as the Woodbine sand is proven for production to the northeast. The Woodbine sand pay in the Corsicana-Powell field, which ranges from about 2820 to 2990 feet, is credited with being particularly open and free from shale breaks, and its porosity materially aids circulation. Although the extent of the thickness of the sand pay in the Corsicana-Powell field has not been fully determined, because of no effort having been made on the structure for deeper production, numerous tests on the W. J. McKie leases have drilled from 60 to 80 feet in the pay without passing out of the sand.

The Humphreys (Pure) Oil Company is expected to be one of the first to attempt to explore for deeper production in the Woodbine series in the Corsicana-Powell field, as this company has practically drilled up its holdings in the field, and its flush production is falling off. This concern recently made an effort to obtain a core of the Woodbine sand in its W. J. McKie 25 by rigging up a diamond core drill after the test was drilled to the top of the sand with rotary. The diamond drill succeeded in taking about 25 feet of the sand, but the heavy rotary mud left in the hole to prevent the well from blowing in proved too stiff for the core machine and a stem was broken off. The well was completed without making any further effort to core deeper in the pay, because of additional delays resulting in loss of flush production.

Deep Logs

When the search for deeper producing horizons gets under way in the Corsicana-Powell field logs of deep holes drilled some time ago on several sides of the present proven structure will be compared with the drilling tests with interest. About two and one-half miles directly southeast from the center of the field the Humphreys Oil Company last year gave up a test on the H. I. Singleton 72 acre lease as a dry hole after drilling to 3682 feet, while early this summer the same company's J. O. Burke 2, located about 2000 feet northeast of the Burke discovery well of the Corsicana-Powell field, was abandoned at 3282 feet after logging water in sand at 2966-98 feet, and indicated that it is west of the Woodbine fault. Two 3500-foot dry holes were drilled early this past summer on the J. H. Burke farm, located within half a mile west of the extreme northeast end of the field without showing for producers. One particular interesting dry hole adjacent to the field is the 3309-foot dry hole given up several years ago by Wheelock and associates on the Bragg survey. In making its famous sweep to the southwest, the Corsicana-Powell field extended several weeks ago within 2500 feet to the east of this dry hole with a 6300-barrel producer, and since a much larger producer was completed within the same distance of the dry hole.

Although located about seven miles northwest of the Corsicana-Powell field and one mile south of Corsicana, the deep drilling test of the Cortex Oil Company on the Brown lease offers an interesting log, and is now drilling in rock formation around the 4000-foot level. This test was spudded December 15, 1919, but Gray Brothers with rotary equipment, and after reaching a depth of 2708 feet, was standardized and drilled to 3375 feet by Hardy Sitton. After being idle many months drilling has been resumed. The log of this test shows the formations to be running between 300 and 400 feet higher than producing wells in the Corsicana-Powell field. The Cortex test reported a little gas from 1601 to 1612 feet, and then encountered Austin chalk from 1612 to 2001 feet. Shale, gumbo, boulders and sand rock then followed until the top of the Woodbine sand was picked up at 2461 feet, but did not carry oil or gas. Sand with an occasional thin streak of hard rock followed for the next 78 feet, then an 8-foot break with 18 feet more of sand. After drilling to 3375 feet a good showing of oil and gas was obtained in sand, but failed to make a well when a string of 6-inch casing was set and the pay tested.

Humphreys First

The first intimation of a deeper producing horizon in the Mexia field was revealed in August, 1922, when Humphreys Oil Company's L. E. Kollman 9 was drilled deeper from the regular sand at 3040 feet to 3199 feet, where four feet of sand proved good for an initial flow of 400 barrels daily. The hole was not in best of condition when the sand was drilled into, else it is thought a better well would have been obtained. A number of other nearby tests were drilled to the lower pay, with fair results later on, but the sand was never given any extensive play. In the Currie field Atlantic Oil Producing Company's Morrow test was drilled deeper this past summer, and tested good for about 200 barrels of oil with water from sand at 3180 to 3214 feet, with most of the oil production coming from the last two feet of pay. Newblock Oil Company's Mattie Bounds 6 also was drilled deeper, and picked up this same pay, but went to water. Cosden Oil and Gas Company's J. V. Bounds 1 proved to be an excellent producer from this lower pay, while the Hughes Company's J. N. Morrow 1 made an 8000-barrel well at 3181 feet.

One Eastern States Man Makes Own Fishing Tool

By E. S. Phillips

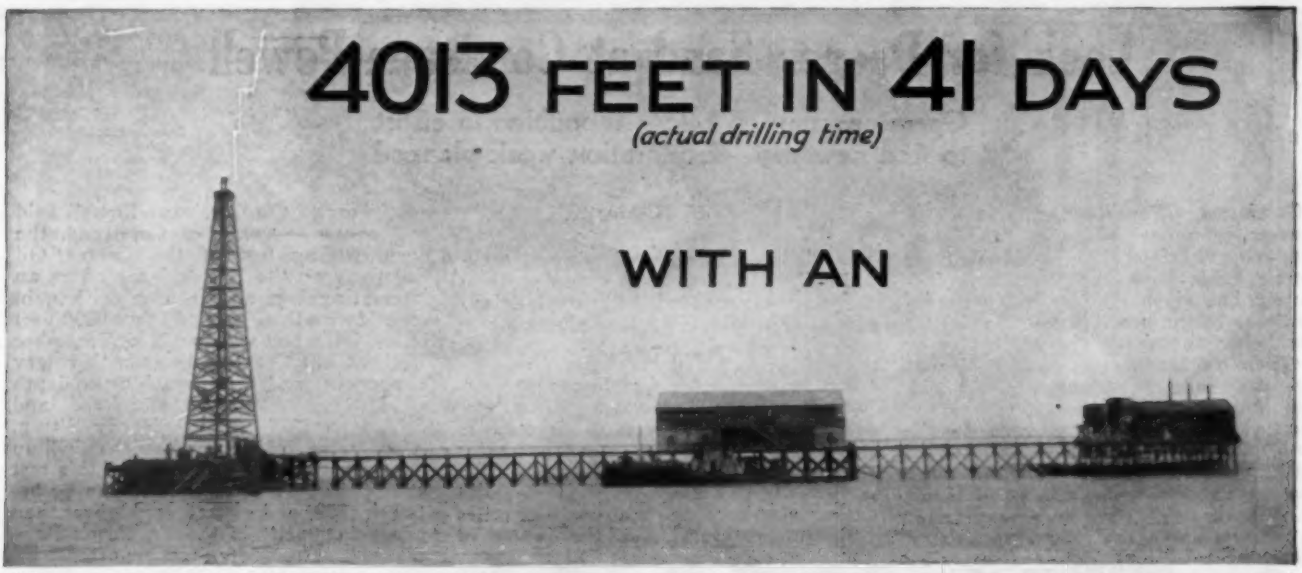
IN AN oil well near Oil City, Pennsylvania, from which old casing was being fished, the cable was cut by slivers from the casing, and 170 feet of rope with tools and trip spear attached were left in the hole. For several days attempts were made to get the rope out, but it was so wadded that the V rope-knife failed to cut it.

In looking for a solution to the problem W. F. Phillips, who had been successful in a number of fishing jobs, had a harpoon shaped tool made according to his directions, 20 feet long, two inches in diameter, the bottom shaped as shown in the diagram. In a few hours the harpoon, which cut both in the downward and upward stroke, cut the rope into pieces which were taken out with the rope spear. In this manner the hole was cleaned to the top of the rope socket. The tools were then taken out with a combination socket.

MAY SPLIT OIL AND GAS

Pittsburgh, Pa., Oct. 20.—A plan to segregate the gas and oil holdings of the Arkansas Natural Gas Company is under consideration by directors of the company. No increase in capital stock is contemplated so far as can be learned.

H. R. Cranford of the land department of the Empire Companies at Bartlesville, Oklahoma, has been promoted to the position of purchasing agent of the Toledo Edison Company of Toledo, Ohio.



"OILWELL" IMPERIAL ROTARY

The above is an actual photograph of the installation of the Atlantic Gulf Oil Corporation (Cias Agwi) in Lake Tamiahua near Tampico, Mexico.

Working in twelve feet of water, five miles from shore, the operators have made a record which (according to their own statement) is largely due to the efficiency of the "Oilwell" Imperial Rotary.

Three strings of casing were used in this well—271 feet of 15½", 1247 feet of 12½" and 2036 feet of 10", the distance from 2036 feet to 4013 feet being drilled "open hole."

The total actual time to complete this well from start to finish was 59 days. Under the Mexican law 16 days were required to set and cement the 12½" and the 10" casing. An additional 2 days were required for driving 15½" casing to shut off the water from the lake.

Actual drilling time with the Imperial Rotary was, therefore, 41 days, a record under such difficult drilling conditions. For instance 185 feet of hard, volcanic rock (basalt) was drilled through in 1½ days. The "Oilwell" Imperial Rotary will save time and money on your operations, just as it is doing for hundreds of others.

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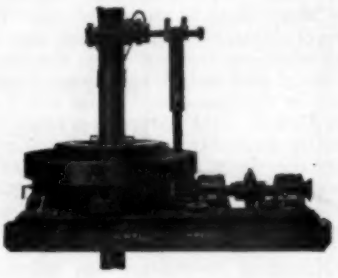

The Imperial Rotary successfully "makes up" (screws together) and "breaks out" (unscrews) casing, drill pipe and tool joints without manual labor, performing this work in less than half the customary time and without the usual dangers to either the drilling crew or the threads.

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Back Pressure Effective for Well Control

But Amerada experiments show method is a waste rather than conservation of force

By John M. Lovejoy
Amerada Petroleum Corporation

VARIOUS estimates have been made as to the percentage of oil left in a field after the oil wells have become so small that it is no longer practical to produce them. Engineers who have made these estimates have given the matter much study and can substantiate their figures by supporting data taken from fields from the Appalachians to California. The average oil sand has a porosity of about 20 per cent, which gives a capacity per acre-foot of approximately 1500 barrels. The sand thickness in Oklahoma pools can be said to average 20 feet. With 20 per cent porosity and a 20 foot sand thickness, the capacity per acre is 30,000 barrels, yet the production that these pools yield will very seldom be more than 5000 barrels to the acre.

The above figures are given to support the theory that at least 50 per cent of the oil originally contained in a sand remains after we have used all known methods to recover it. Certainly we can never recover all of the oil unless perhaps in years to come oil becomes such a rare and yet necessary product that the price will justify shafts into the old abandoned fields and regular mining methods of drifting and stoping. However, with improved methods of production and conservation of the natural agencies of expulsion, we should be able to increase recovery. It is with this in mind that this paper relating to the effect of back pressure on wells is being presented.

Except in the fields where production is caused by hydrostatic pressure, the chief agency for getting oil out of the sand into the hole is the gas that occurs with the oil. After the pressure has declined, probably gravity is also a factor but not an important one. With a given amount of oil in a sand and a given amount of gas occurring with the oil, the ratio of gas volume per barrel of oil is the key to the ultimate recovery from that sand.

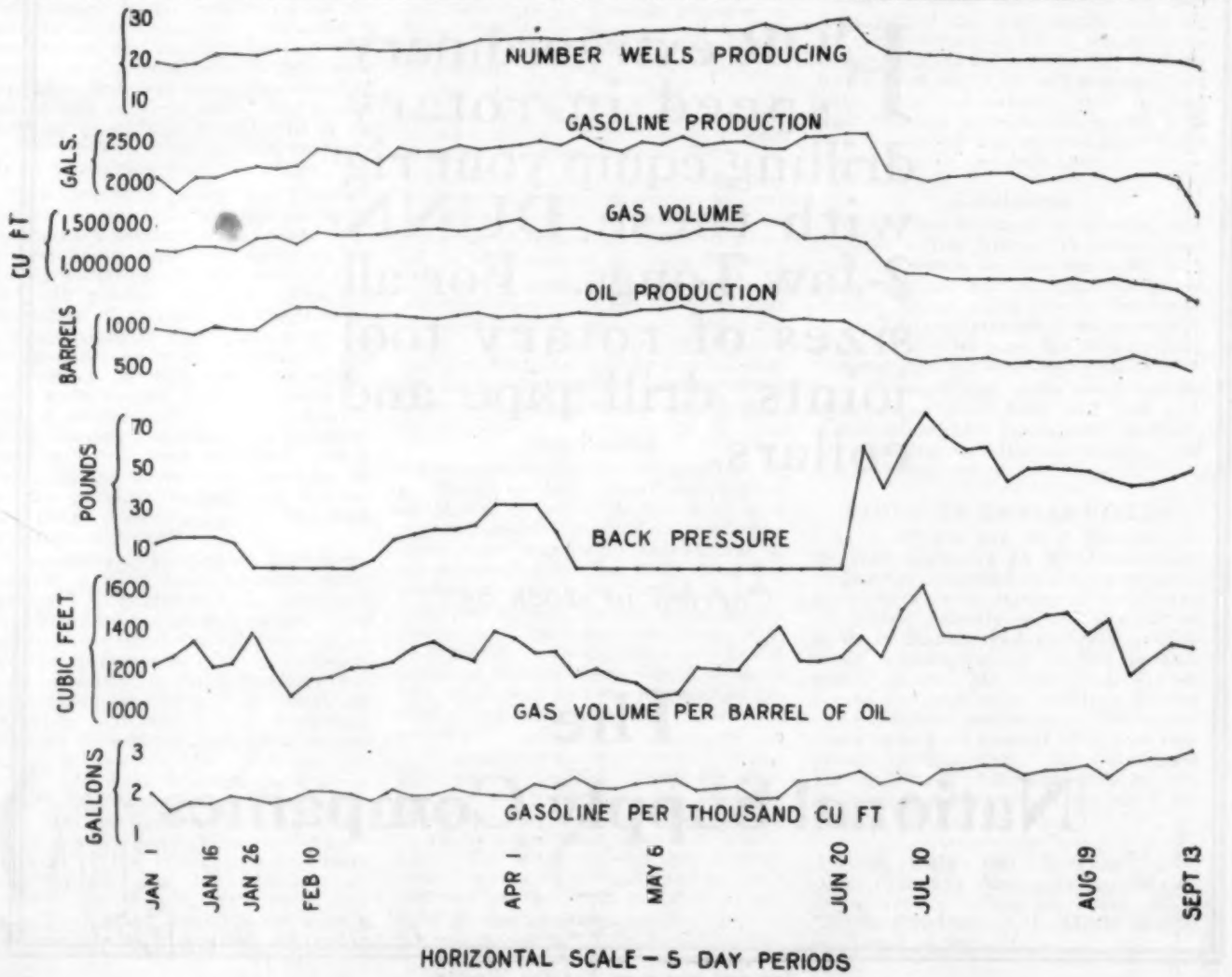
Our efforts should be along lines that will lower this ratio and make the gas, the agency given up by nature, do its work better and yield to us more of the oil, of which it is a part.

T. E. Swigart, of the United States Bureau of Mines, in Volume 7, No. 1, Bulletin of the American Association of Petroleum Geologists, has published an extract of the paper he is preparing under title of "The Effect of Back Pressures on Wells." The experiments described were made on two small pumping wells in Osage County, Oklahoma. The results show a considerable reduction in the ratio of gas per barrel of oil by producing the wells against a back pressure. Although Mr. Swigart's work with back pressures is the only information that has been published on this subject, other tests that have been made with back pressures against **flowing** wells have not only failed to show a reduction in gas ratio but show an actual increase in this ratio.

The Mid-West Refining Company conducted a series of tests on flowing wells in the Salt Creek field under the direction of E. L. Estabrook. The result of these tests was that straight back pressures did not lower the gas volume per barrel of oil.

T. F. Morgan, in the September issue of the Mining and Oil Bulletin of Cali-

Note—Presented at Tulsa meeting of American Petroleum Technologists—Oct. 11-12.



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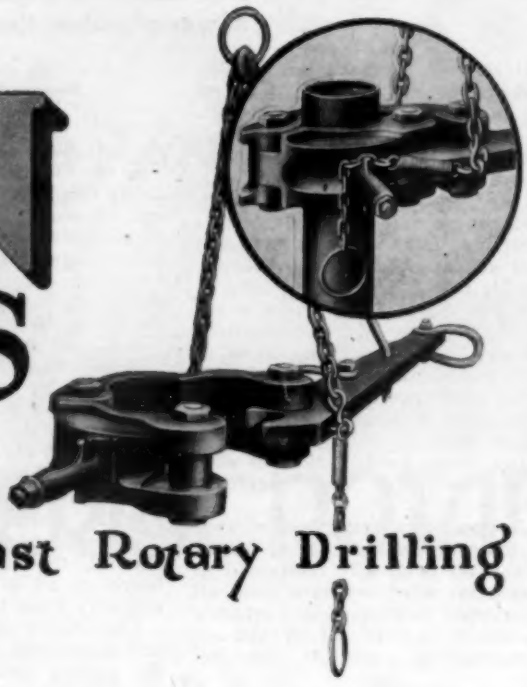

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fornia, in his article, "Notes on the Natural Gas Situation," says: "Restriction of oil production has undoubtedly assisted greatly in the conservation of gas, while its general effect has been to increase the ratio of gas to oil." This of course applies to the large flowing wells in the fields of the Los Angeles basin.

The experiments to be described in this paper confirm the conclusion of Mr. Morgan and Mr. Estabrook as applied to small wells. It is quite possible that the difference between these results and those of Mr. Swigart is because he was working with pumping wells only, while pumping and flowing wells are combined in these tests.

Back Pressures

The experiments were carried out in the Brock field in township 5 south, range 1 east, Carter County, Oklahoma, about nine miles southwest of Ardmore. The field was discovered in January, 1920, and has been developed slowly since that time, now having a total of 30 producing wells. The Amerada Petroleum Corporation owns all of the productive leasehold. The company operates a casinghead gasoline plant in the field, so that means were available to meter the gas from separate wells, separate leases and from the entire field.

The production comes from a series of sands in a shale and sand zone found from 1300 to 2000 feet. The average thickness of the sands is about 20 feet and average initial production of the wells is about 45 barrels. The sand is fine grained and compact but not very hard. Only two wells in the field have been shot, as it was found that shooting caused the sand to keep caving into the hole to such an extent that it required weeks to clean out and no benefits in production were obtained.

Back pressures were first applied to some of the wells by maintaining 15 pounds back pressure on a Ballard trap, the gas being used from the trap for drilling purposes. It was noticed that the back pressure did not affect the production of the wells in the trap, so it was decided to try higher pressures and measure both oil production and gas volume. At this time most of the wells were flowing through tubing set with a packer. A few were flowing through casing and some were pumping. Each well was then equipped with a spring release valve which could be set for any pressure desired and a pressure gauge was attached to the lead line from each well.

The results of the various back pressures used have been recorded from January 1 to September 15. They are best shown by the plotted curves. The curves show that during January by building up pressures of 15 pounds and later releasing the back pressure entirely, there was very little effect on the wells. In the period beginning February 10, with no back pressure, we have a gas ratio of 1160 cubic feet per barrel. On April 1 with a back pressure of 32 pounds the ratio was 1320 cubic feet per barrel. And again on May 6, with no back pressure, the lowest ratio of the entire series of tests was recorded, being 1070 cubic feet per barrel. The highest ratio is in the period beginning July 10, when with a back pressure of 76 pounds, 1620 cubic feet of gas was required to produce a barrel of oil.

Date—Average 5 Days Beginning..	No. Flow. Wells	No. Pump. Wells	Average Back Pres. lbs.	Total Oil Prod. bbls.	Total Gas Vol., M.	Gas Vol. per bbl. Oil cu. ft.	Gasoline Cont. per M. Gas bbls.
January 1	15	4	12	950	1150	1220	2.00
January 16	14	6	15	975	1150	1220	1.75
January 26	14	6	0	925	1300	1300	1.82
February 10	16	6	0	1200	1375	1160	2.01
April 1	17	8	32	1100	1500	1360	1.91
May 6	17	9	0	1160	1320	1070	2.27
June 20	18	10	0	1005	1275	1270	2.40
July 10	19	0	76	510	850	1620	2.30
August 19	18	0	48	500	720	1400	2.70
September 13	16	0	49	350	490	1320	3.15

The higher back pressures shown after June 20 were not applied purely in the interests of science but because prorating became effective at this time and it was necessary to curtail production.

It is interesting to note the generally higher gasoline content per 1000 cubic feet of gas during the last two months of the tests, with the wells producing against about 50 pounds back pressure. This may be partially accounted for by the fact that during the very hot weather we had gas lines connected to the roofs of two 55,000 barrel tanks full of oil and undoubtedly some very rich gas came into the plant from these tanks. However, we believe that a back pressure does increase the gasoline content to some extent. The gravity of the oil did not appreciably vary with the back pressure.

It should be explained that the average back pressure in the curves and chart is simply a mathematical average and that with an average pressure of 50 pounds some of the wells had as high as 90 pounds and others as low as 15 pounds.

After the pumping wells were shut down in July, they were left connected to the traps and make a small amount of gas.

The back pressure system of curtailing production has proven to be very satisfactory. The oil production desired can be controlled almost to a barrel by regulation of the back pressure.

Frequent tests have been made to ascertain whether or not the wells were being damaged by the heavy back pressures. In all cases when all pressure was removed the well responded with the full production that they had previously been making under open flow.

Stop-Cocking

Preliminary experiments made by H. C. George of the United States Bureau of Mines, on wells in this field with the stop-cocking method of producing, show very satisfactory results, and at his suggestion further tests with this method are now being carried on.

By this method the well is completely closed until its maximum pressure is built up. It is then opened and as the pressure rapidly goes down a small flow of oil will follow. The valves are then closed again and the operation repeated.

An apparatus has been devised by Mr. Back of the Amerada Petroleum Corporation which automatically opens and closes the valves at the proper times, so that a continuous operation is possible. The results of the tests already made are very encouraging and we trust that further work with this method will show as good results.

From September 1 to September 20, inclusive, well flowing through tubing and with no back pressure:

Gas passed, cubic feet	554,500
Oil produced, barrels	551
Average daily oil production, barrels	27.5
Cubic feet of gas per barrel oil	1,006

From September 21 to September 25, inclusive, with apparatus attached allowing well to flow entirely open each time a pressure of 50 pounds was reached:

Gas passed, cubic feet	129,405
Oil produced, barrels	155
Average daily oil prod., barrels	31
Cubic feet gas per barrel oil	834

Not only was the gas volume of oil decreased by 172 cubic feet per barrel, or 17 per cent, but the actual production of the well was increased from 27.5 barrels to 31 barrels, or 13 per cent.

The well would make two flows about 20 minutes apart and then would not flow again for nearly two hours, although in some cases during the two hour period the well would build up enough pressure to cause the valve to release but would not be followed up by a flow of oil. This well was equipped with three inch tubing. It is thought that possibly even better results will be obtained by this method from wells equipped with two inch tubing.

Conclusions

The writer hesitates to present conclusions. It is difficult to believe that back pressures on flowing wells is a waste rather than a conservation of natural forces. Yet this is the result of our tests on straight back pressures, although the tests on the stop-cocking method give very encouraging results.

It is hoped that more work will be done along these lines and that true conservation and consequent methods of increasing the ultimate recovery will soon be discovered.

STUDY OF KANSAS FIELDS

L. A. Ogden and M. J. Kirwan, petroleum engineers of the Department of Interior, attached to the Bartlesville, Okla., experiment station of the Bureau of Mines, recently visited various oil fields in Kansas and gathered preliminary information on drilling production problems. Mr. Ogden has been assigned the problem of studying drilling and production problems in Kansas, and plans to make a general survey of conditions in that state. He will devote the major part of his time to preparing an engineering report on the more important fields of the state.

Tulsa, Okla., Oct. 29.—The S. M. Jones Company announces the opening of a branch office in Tulsa, 601-2 Wright Building. A. L. Meeks will be in charge of the office.

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3. Evaporation Losses made negligible.
4. Fire Hazard not worth mentioning.
5. Can be dismantled and moved from one field to another.
6. Pay for themselves in a short time.
7. Can be used as Flow tank and gas separator, thus providing cheap lease fuel.

Paying Our Debt to the Oil Industry

Black, Sivalls and Bryson, as foremost lease tank builders in the country, are mindful of the debt the firm owes the oil industry for continued prosperity, even in the face of many trials and tribulations which the entire industry has had to face.

In a measure they feel they have largely paid this debt.

For it was through their efforts that the oil industry began to awaken to the necessity of combating evaporation, which was robbing producers of millions of dollars yearly. Until Black, Sivalls and Bryson began a publicity campaign two years ago pointing out the great loss and a possible remedy, evaporation was generally considered a necessary evil.

Now almost every oil company demands that its storage tanks be made in such a manner as to successfully cope with the onslaughts of evaporation.

Most likely in specifying lease tankage they will insist on Perfection Vapor Pressure tanks, the pioneer line in the field—the tank which meets every recommended feature of the U. S. Bureau of Mines, besides being Standard lease equipment of most of the important oil companies of the country.

It's the one tank in the industry that will pay for itself in a short time. Get in touch with our nearest branch representative for further particulars.

Black Sivalls & Bryson
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BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

Say you saw it in The Oil Weekly

Mystery Surrounds Work in Peruvian Fields

Highest pool in the world claim of country— Search for oil started back in early 60's

By A. E. Fowkes
Assistant to Director of Exploration and Production, The Union Oil Company of California

TURNING back the pages of history we find that somewhere about the middle of the sixteenth century, petroleum, or pitch as it was then known to the Indians of Peru, was discovered. Its uses were limited. It is recorded that its first known use was in rendering non-porous the earthenware jars which the Incas used as receptacles for fermented liquors. By a curious anomaly, the pitch also served to preserve the mummies of those who drank from the flowing bowl. The odor of the pitch was offensive and strong. Those of us who have passed the oil wells in the ocean at Summerland on a hot summer day can better appreciate this peculiarity of black oil.

The odor of the Peruvian pitch was picked up at sea and aroused the covetousness of the Spanish explorers who were ever on the outlook for deposits of pitch or brea which they used for calking their ships and making them seaworthy.

It is also of record that the pitch served as an aid to navigation as we find that Joseph Acosta, the Spanish Jesuit author, who was a missionary and afterwards ruler of Peru, writes of what are now the principal oil fields of South America:

"As we came navigating for New Spain along the Coast of Peru the pilot showed me the island called Lobos, where there is a spring or well of pitch or cope. The said pilot, an excellent man in his profession, told me that he had come navigating here many times and sometimes so far out at sea that he could not see land, but he knew by the odor of the bitumen where he was with as much certainty as if he could see land, so strong is the odor given off."

Rich in Mineral

When the Spaniards overran the country, wresting it from the Incas, they found a land rich in mineral resources and without legal owners. The Incas were communistic and their vassals had no proprietary rights. The fruits of victory therefore went to the Spanish crown, and the privilege of working the pitch deposits was deemed a royal monopoly.

Under these conditions development progressed slowly; however, numerous outcroppings of oil were found in what was formerly the estate of Mancora, between the seacoast and the chain of La Brea mountains, and these were worked by the Spaniards for brea only. The oil bearing strata either appeared at the surface or where earth fractures allowed the petroleum to filter through to the surface where the lighter portion evaporated, leaving the heavier and more permanent residuum to slowly oxidize. Pits sometimes several hundred feet long were dug till they reached salt water; the petroleum was slowly discharged from the sands, and floating on the water, lost its volatile contents and thickened. Periodically it was skimmed off and taken to the "hornos" or ovens where a series of earthenware pots set over a slow fire; in these the thick oil evaporated till the right consistency was obtained, when it was allowed to solidify. At La Brea there may still be seen a stockade—in places ten feet high—consisting of tens of thousands of these discarded earthenware vessels.

Reprinted from the Union Oil Bulletin.

Methods are Crude

It was not until the passing of the Spanish domination and the introduction of modern ideas and methods in the 1860's, that any real progress was made, although the producing localities of the Peruvian fields of today are for the most part similar to those under the rule of the Incas and Spain. They are with one or two exceptions found in a comparatively small area in the northern coast of the country. They had their inception, grew and flourihed under desert conditions that were anything but ideal. The oil is in general of high quality, with an asphaltic base, but containing more than 20 per cent of benzine.

Mr. Fowkes and his assistant off for a hunt in the jungles of Peru.

The handicaps which were met and overcome by the pioneers in modern oil development in Peru were many and varied. Every quality of the pioneer as well as every resource of the practical oil man was tested. Necessities of industry and even of life had to be created. There were no manufacturing centers, harbors were non-existent, railways undreamed of. Transportation of equipment presented a difficult problem as only the most primitive means of transportation were obtainable, and only manual labor available. The overshadowing handicap of lack of water in a sun-baked desert with its ever shifting sands added to the difficulties. The first essential in any industrial development is a water supply, and up to as late as 1905 it was necessary to use windmills to pump brackish water which was condensed and carried by mules to the centers of activity.

A Mystery

Modern pioneer development of Peruvian petroleum fields is somewhat shrouded in mystery. There are no concrete records to show just when it began, although there are evidences that workings were carried on in the early '60's. There is the record of operations by a Pennsylvanian, Mr. Prentice by name, who in 1867 drilled wells at Zorritos. These gave promise at shallow depths, and he erected a refinery. At La Brea there may be found a hand dug well, four feet square and thirty feet deep, as well as some casing and drilling jars inscribed "Titusville, 1876."

In the early '70's the active development of the Negritos field was commenced under the direction of my father, Edgar Fowks, who had become interested in the Peruvian oil prospects through an old school mate, Henry Meiggs, then engaged in building the Andean Mountain Railway. Meiggs was also very active in developing the various resources of Peru and Chile, and sensing the petroleum possibilities in Peru persuaded my father, who was at that time engaged in the oil industry in Pennsylvania, to go to Peru and assist him in promoting the growth of the petroleum industry there.

Our first glimpse of the Peruvian shore remains indelibly impressed in my mind. It seemed a desolate and barren country we had come to; not a bit of green to break the monotony of the scene. Today conditions are changed. Where in those days of 1873 but a few scattered dwellings defied the laws of sanitation, there are now the flourishing towns of Negritos and Talara, typical oil towns, with refineries and manufacturing plants—monuments to the petroleum industry — grouped around the water front.

Negritos Field

In 1874 the first three wells in the Negritos field were drilled under the direction of my father. One of these "spouted" at 60 feet, while another flowed 400 barrels a day for an extended period at a depth of 330 feet. These results were very encouraging, and resulted in considerable attention being given to this locality by other operators. Production increased and a refinery was erected at Negritos, where kerosene and lubricating oil for local consumption was manufactured.

As development progressed, production exceeded the demand—the local needs being very limited—and it was necessary to seek a foreign market. Shipments could be made in wooden sailing vessels, the oil being transported in wooden barrels of 42 gallons capacity. The loading of the oil presented many difficulties. There being no

Made for the Trade

'When we speak of the new Turbine-Generator Rig Lighting Unit as being "made for the trade" and designed to afford "simplicity, safety, economy and reliability," you'll probably remark "That's what they all say."

No doubt your suspicions are justified. 'Matter of fact, we are mighty pleased to have you analyze our statements. It brings out the "fine points" of the new Westinghouse Rig Lighter. In other words, you "sell" yourself.

Simplicity

We've left out the trimmings and given you the Rig Lighter. Only five main castings are used, and only one of these supports the Unit. Any possibility of distortion either from bolting down or temperature changes is avoided because only one bearing is secured. It is carried by the one main casting which supports the Unit.

Safety

This Unit has been said to lead "a charmed life." The fly ball governor and expanding rotary rim prevent the possibility of a runaway. Likelihood of injury to the operator or the Unit as a result of careless handling is avoided because all working parts are covered.

Economy

You might call this Unit "thrifty." The steam is shot through the buckets twice. This saving is effected through a special design of the nozzle and the reversing chamber.

Reliability

You can "bank on" the new Westinghouse Turbine-Generator Rig Lighting Unit to "stay put." One look at this rig lighter gives you the feeling that here is an outfit whose rugged construction almost invites abuse.

One more thing—Westinghouse service only begins with the sale. Our engineers and representatives are eager to help you on any of your perplexing problems at all times.

Westinghouse Electric & Manufacturing Co.
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wharfs, the barrels were put on the vessels by means of rafts or "balsas" which carried them through the surf to the waiting ships in the open roadstead. The first shipment was made on the sailing vessel "Bengal," which on making a second trip was lost. It is stated the barrels knocking against each other caused them to leak and the oil, running into the timbers of the ship so saturated them that the nails and bolts pulled out, the ship breaking up. This disaster sealed the doom of oil shipments in wooden vessels, subsequent movements being made in steel ships.

In 1875 the gods of war stopped for a time developments of the oil fields on the seashore at Negritos. Chile had emerged victorious over Peru, and it was some months before the Chilean war vessels ended their domination of the Peruvian coast and petroleum activities were resumed.

The hacienda "La Brea de Parinas," on which the drilling at Negritos was first carried on was situated on the Pacific coast near the Peru-Ecuador border and was about 14 leagues in length by 10 leagues in width, containing approximately 800,000 acres. This hacienda was an old Spanish grant given to one of the officers in the Army of the Conquest under Pizarro, the territory in the grant being specified as an "oil mine." As such it was exempt from denouncement proceedings by which procedure individuals or corporations in later days secured from the government possessions of large tracts. At the time of the Peruvian-Chilean war the hacienda was in possession of Don Genaro Helguero, who had inherited it from his forefathers. Through business connections with Senor Helguero, my father secured an option to sell or otherwise dispose of the hacienda La Brea as an oil property.

In 1888 the property was accordingly acquired from the Helguero family by H. W. C. Tweddle, famous for the discovery and first development of the great Baku oil fields of Russia.

Company Organized

For the purpose of developing the hacienda, the London and Pacific Petroleum Co., Ltd. was formed with the assistance of William Keswick, an English capitalist, whose son is still identified with the oil industry of this section of Peru. Under the provisions of the bill of sale, my father, brother and myself contracted to remain on the property with the London and Pacific Company for one year, the new interests considering our experience in the handling of the natives and our knowledge of business methods in Peru of sufficient importance to warrant this provision.

The first well of the amalgamated interests was drilled in 1889, and was a fair producer from a shallow depth. The oil was 37 degrees Baume and contained more than 20 per cent benzine. When in the following year, it was believed that the field had been sufficiently proven as the result of production from the test well, a refinery was built at Talara, about six miles away where there was a good natural harbor. It had been necessary heretofore to unload all drilling supplies from ships in the open roadstead at Negritos, using rafts to bring the cargoes through tempestuous breakers to the shore. A tin shop was opened at Talara to make the export cans, a carpenter's shop to construct the cases, and soon a small but thriving community arose in this desolate spot on the equatorial shores of the Pacific. Subsequently a railway was laid between Talara and Negritos, the receiving of drilling supplies from vessels at the latter town was discontinued, the material being shipped by rail. These much needed improvements speeded up production.

A typical scene in Peru, where oil exploration work is under way.

Union Contract

In 1895, W. L. Hardison who with Lyman Stewart formed the Union Oil Company of California, contracted with the London and Pacific Petroleum Company, Ltd. to drill for oil with the option of acquiring the property. Hardison was accompanied to Peru by Chester W. Brown, now director of exploration and production of Union Oil Company of California. Three wells were drilled by them, but not finding the oil possibilities sufficiently alluring, Hardison did not exercise his option. It was at this juncture that I met Hardison and Brown.

Seek Other Fields

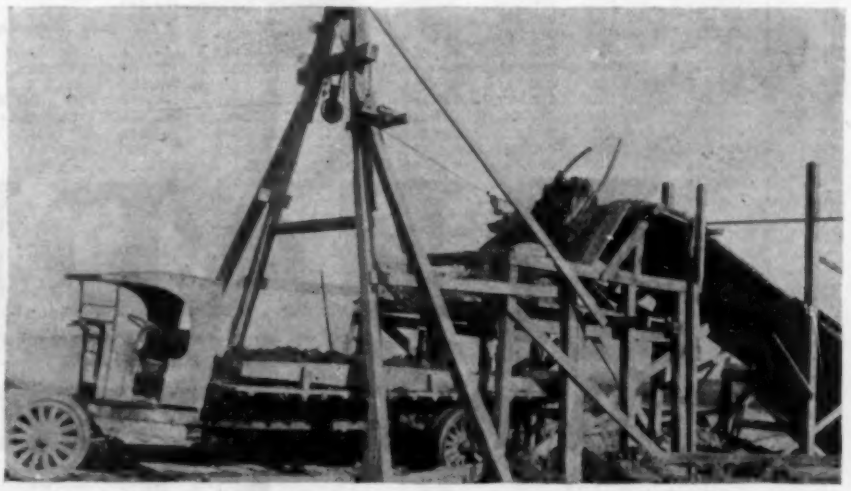
The failure of the oil prospects at Negritos to attain the magnitude he had hoped for, led Hardison to seek other fields, and when reports of the discovery of a rich gold mine in the southern part of the country reached Negritos, Hardison, the pioneer, became more enthusiastic over gold than oil. The thought of going out into the wild country where the mine was located and where no white man had ever trod appealed strongly to him, and, with Chester W. Brown, he made the trip over the Andes. They traveled by mule pack while the trails lasted, walking the remainder of the wild country to the scene of the discovery. They found themselves in a savage country and had to literally fight their way through. Every foot of path in the jungle had to be chopped out for trails. Dark and deep ravines in which the stars were visible at noon, were crossed by means of swinging bridges built on cables which were stretched across the ravines.

As the result of the trip the mine was purchased by the Inca Mining Company, a corporation formed in Bradford, Pennsylvania, by Hardison. The subsequent operation of the gold prospects was a big success, millions of dollars being taken out of it. Chester W. Brown was made manager of the mining company, and I became associated with him in the project. For the next fourteen years, until 1909, we were actively engaged in mining and the rubber business in the forests of the Amazon basin, although never fully divorcing ourselves from the petroleum industry.

At Lake Titicaca some promising oil property was located, and in 1900 Mr. Brown returned to Los Angeles, where he formed the Titicaca Oil Company, composed of Senator Frank H. Flint, Max Whittier, Donald Barker, A. Benfield, C. F. Whittier, W. L. Hardison, Fred Brown and Chester W. Brown.

The Titicaca, with Seth Hardison, nephew of W. L. Hardison, as superintendent, drilled five wells and got some light, 41 gravity oil at depth of 150 to 250 feet. The first well only made a couple of barrels a day; the second five barrels daily. Then came a salt water well—a regular geyser. The fourth well unexpectedly came in as a gusher, making 1000 barrels in six hours, then dropping off to 150 barrels. Much of the big flow was lost, as no preparation had been made for the eventuality of a gusher and there were no storage

(Continued on page 71.)



Excavating mud from the lowlands about five miles from the Torrance field in California, to which field it is trucked at $20.00 a load. It is used for mudding purposes when drilling through the sand formations encountered at Torrance. Photo courtesy Early Deane.

This "Much Traveled" String of "Reading" Proves the Value of Pipe that Endures

"At the time you last paid us a visit"—writes R. R. Pollak, Field Manager of the Miocene Oil Company—"you seemed greatly interested in a string of Reading Casing that has been used in our well No. 1. Here is a brief recital of the trips made.

"The well was originally drilled by the Rotary method with a string of 28-pound, 6-inch Reading Rotary Drill Pipe. After the hole had been drilled this drill pipe was cemented as a water string at 2276 feet in December, 1911. After producing for nine years, the water finally broke in which necessitated redrilling. The string of Reading casing was cut out, and in fishing for a lost spear, 12 round trips were made, this pipe being used as a fishing string. In three of the trips the pipe was used to rotate milling tools.

"The collars of the pipe were then 'pinned' for the purpose of attempting to back off the lost tools. Finally the pipe, or casing, still being in such good condition, the collars were removed, the pipe re-threaded for the new 10-inch collars, and again used as a water string, having been re-cemented at 2280 feet.

"The well is again producing and we hope that this much travelled string of Reading Pipe has taken its last journey; not that it is dead, but that its usefulness will extend beyond the life of the well."

Mr. Pollak's experience—and that of every "Reading" user—proves conclusively that low **price** pipe and low **cost** pipe are vastly different. Readings' endurance—two to three times that of steel—makes its use a positive economy.

READING IRON COMPANY

Reading, Penna.

Largest Manufacturers of Genuine Wrought Iron Pipe in the World

Oil Well Supply Co., Distributors
Stores in all important oil fields

READING
GUARANTEED GENUINE
WROUGHT IRON PIPE

FIELD NOTES AND PRODUCTION STATISTICS

California Crude Buyers Competing for Oil

Market stiffens as production declines and additional steel storage is completed

By W. E. Green

Los Angeles, Calif., Oct. 29.—Competition of buyers of crude in the fields has stiffened the crude market in California considerably the past two weeks as the daily production declines and as new storage is being completed with little chance of it being filled in the near future.

It is estimated that there is storage available today for approximately 15,000,000 barrels of crude in Southern California, counting both steel and reservoir space and indications are that there will be completed by December 1 about 3,000,000 additional storage space.

In the face of these conditions, with some of the companies not sure that they will get all the crude they need to fill contracts during the coming year, the market is firm with chances of a raise in prices rather than any further cut, although a raise before next spring, or rather early in the year, would be surprising.

Long Beach Is Up

During the past week production at Santa Fe Springs fell below that of Long Beach for the first time, with a daily average of only 252,500 barrels, against 260,000 barrels daily for Long Beach. The production at Long Beach for the past month has played around between 250,000 and 260,000 barrels daily and at least one authority is of the opinion that Long Beach has reached the peak, unless there were a large number of completions in one week, when the production for that week might show an increase.

There are 181 wells drilling at Santa Fe Springs, 130 of which are below 4000 feet, but there are 40 idle rigs in the field. Only two completions were reported for the past week, and they were not large. Although two wells were completed the past week, 11 less wells were on production, showing that 13 wells are off for various reasons. Some of them are going on the pump, while others are drilling deeper or cleaning out. The well average last week was 1122 barrels a day, against 1160 barrels a day the previous week.

Lease requirements have forced the starting of only seven new wells at Santa Fe Springs the past month, three by the Associated and seven by the Standard.

May Extend Field

At Long Beach the production has reached the highest in the history of the field, 272 producers furnishing around 260,000 barrels a day. The new wells were not especially outstanding and the production passed the 1000-barrel mark in five of them. The interesting well at this time is the Shell's Bixby 2, 400 feet southeast of the present outpost well in the southeast part of the field. This well has cemented 6¼-inch at 4360 feet and has drilled to 4464 feet. When tested it refused to flow, except by small heads, and is now drilling deeper. A producer here means an extension of 400 feet and probably would mean several additional wells would have to be drilled.

Forty-one wells late last week were drilling below 3000 feet at Torrance and

(Continued on page 37.)

CALIFORNIA FIELD OPERATIONS

The following table from statistics compiled by State Oil and Gas Supervisor R. E. Collom for California for the past several weeks gives a true insight into field activities:

Week ending—	New wells started	Water shutoff tests	Deepening jobs	No. wells aband.
June 2	16	25	19	5
June 9	36	48	7	4
June 16	15	45	9	2
June 23	24	36	13	6
June 30	29	41	11	5
July 7	20	37	15	2
July 14	22	36	16	14
July 21	22	29	7	1
July 28	30	43	8	6
August 4	24	36	15	4
August 11	21	32	9	7
August 18	25	34	8	9
August 25	26	39	9	6
September 1	19	35	7	3
September 8	18	39	7	3
September 15	24	39	8	7
September 22	28	38	7	14
September 29	33	43	10	9
October 6	24	28	10	9
October 13	26	36	8	4
October 20	23	33	10	7

Imports of Petroleum at Principal United States Ports

The following figures represent the total imports of crude oil for the month with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
August	717,000	728,845	2,264,000	661,866	1,291,000	5,662,611	987,000	861,190	1,594,000	157,000	3,599,190	9,261,801
September	774,000	739,814	2,551,701	657,964	845,201	5,237,680	1,099,000	1,159,531	748,000	150,000	2,956,531	8,194,211
October	616,769	555,803	1,339,150	524,558	870,000	3,907,066	1,159,000	1,008,440	1,614,000	99,000	3,880,440	7,787,506
November	692,000	472,465	1,933,263	728,490	849,428	4,676,527	1,305,000	889,751	1,046,000	74,000	3,314,751	7,991,278
December	774,825	693,120	2,606,130	713,565	1,901,498	5,874,917	1,530,000	847,241	828,000	80,000	3,285,241	9,160,158
January	475,000	745,115	1,636,020	641,006	1,163,170	4,760,155	1,053,000	733,284	1,182,654	40,000	3,011,953	7,772,108
February	421,000	553,510	1,163,971	570,129	1,150,819	3,859,429	1,079,000	951,818	1,019,000	167,000	3,216,818	7,076,247
March	265,000	450,000	2,020,139	848,000	1,406,577	5,045,924	1,857,000	1,611,794	1,453,000	240,000	5,162,794	10,208,718
April	370,000	669,000	1,074,000	625,000	591,000	3,319,000	1,615,000	1,000,000	1,135,000	168,000	4,362,500	7,681,500
May	344,000	515,000	1,026,000	437,000	615,000	2,937,000	1,351,000	910,000	1,184,000	127,000	3,582,000	6,519,000
June	314,000	421,000	1,791,000	755,000	809,000	4,090,000	1,515,000	1,142,000	1,062,000	229,000	3,948,000	8,038,000
July	287,000	465,000	1,806,000	448,000	898,000	3,876,000	1,471,000	1,120,000	833,000	92,000	3,516,000	7,392,000
September	268,000	565,000	1,744,000	660,000	686,000	3,923,000	1,776,000	1,397,000	880,000	224,000	4,277,000	8,202,000
October 6	112,000	41,000	286,000	232,000	400,000	1,071,000	208,000	268,000	134,000	.....	610,000	1,681,000
October 13	45,000	70,000	284,000	.....	60,000	459,000	364,000	402,000	130,000	15,000	411,000	1,370,000
October 20	65,000	181,000	309,000	175,000	130,000	860,000	228,000	363,000	65,000	35,000	691,000	1,551,000

NOTE—Figures by American Petroleum Institute.

Receipts of California Oil at Atlantic Coast Ports

The following shows the receipts of California oil at Atlantic Coast ports by months with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at all Ports
March	442,000	184,000	1,355,000	496,000	615,000	2,691,000	.....	.....	.....	.....	.....	2,691,000
April	105,000	256,000	2,456,000	502,000	320,000	3,639,000	.....	478,000	.....	.....	478,000	4,117,000
May	444,000	72,000	1,259,000	764,000	964,000	3,553,000	.....	300,000	53,000	.....	353,000	3,906,000
June	821,000	160,000	3,206,000	826,000	808,000	5,821,000	.....	664,000	.....	.....	664,000	6,485,000
July	443,000	75,000	2,068,000	741,000	699,000	4,080,000	.....	559,000	.....	.....	559,000	4,639,000
August	329,000	229,000	2,956,000	836,000	683,000	5,033,000	.....	970,000	70,000	.....	1,040,000	6,073,000
September	1,028,000	237,000	2,581,000	621,000	443,000	4,910,000	.....	703,000	.....	.....	703,000	5,613,000
October 6	248,000	.....	420,000	248,000	215,000	1,131,000	.....	243,000	.....	.....	243,000	1,374,000
October 13	182,000	75,000	979,000	168,000	75,000	1,479,000	.....	238,000	.....	.....	238,000	1,717,000
October 20	144,000	149,000	596,000	212,000	.....	1,101,000	.....	.....	.....	.....	.....	1,101,000

NOTE—Figures by American Petroleum Institute.

Average Daily Production for all U. S. Fields

Oklahoma

	This Week	Last Week
Burbank	89,795	90,006
Tonkawa	49,965	52,828
Osage (outside Burbank)	23,350	23,500
Eristow	45,200	45,200
Cushing	23,800	24,000
Okmulgee	22,150	22,000
Hewitt	21,250	21,500
Healdton	13,000	13,150
Wewoka	13,750	13,500
Duncan and Walters	6,800	6,800
Other fields	79,545	76,542
Total	388,605	389,026

Kansas

	This Week	Last Week
El Dorado	17,600	17,500
Greenwood	13,500	13,600
Elbing & Peabody	10,850	11,000
Fox-Bush	6,400	6,400
Florence and Covert	3,400	3,350
Blankenship	4,150	4,000
Augusta and Douglas	3,650	3,700
Leon and Webster	1,500	1,500
Other fields	9,600	9,450
Total	70,650	70,500

Louisiana

	This Week	Last Week
Haynesville	23,440	24,165
Caddo	11,120	11,115
Homer	9,500	9,650
Bellevue	7,150	6,230
Vinton	6,000	6,085
Bull Bayou	5,565	5,725
Elm Grove	1,250	1,300
Evangeline	725	735
Edgerly	410	415
Anse La Butte	10	10
Total	65,170	65,430

Arkansas

Smackover	108,075	100,100
El Dorado	10,625	11,080
El Dorado East Field	8,700	8,805
Stephens	2,810	3,015
Totals	130,210	125,250

California

	Last Week	Prod. Wells	Prev. Week
Santa Fe Springs	252,500	225	274,000
Lond Beach	260,000	272	253,000
Huntington Beach	82,200	215	82,500
Torrance	14,500	41	14,000
Compton	1,400	1	1,450
Others	190,400	...	195,550
Total	801,000	754	820,500

Mexico

The daily average production of crude oil in the Mexican fields follows:

	Oct. 20	Oct. 13
Cerro Azul Toteco	62,500	52,000
Tierra B-Chap-Alamo	40,000	41,000
Central Amatlan	25,000	24,000
Los Naranjos	11,000	9,000
Tepetate-Casiano	7,000	7,000
Potrero del Llano	5,000	5,500
San Geronimo	2,000	8,000
Chiconcillos	1,000	1,000
Total, light oil	153,500	147,500
Total Panuco District heavy oil	214,000	257,000
Total for Mexico	367,500	404,500

Los Angeles Shipments Foreign Ports Are Off

Los Angeles, Calif., Oct. 27.—Shipments of petroleum and its products the past week was off, when compared with figures for the previous week.

	Last week	Previous week
Tankers departed	34	40
Total crude	1,936,045	2,225,074
Total fuel	224,890	344,770
Total gasoline	5,201	147,545
Total Deisel	.....	76,239
Crude to Pacific	851,058	1,147,594
Fuel to Pacific	95,634	75,748
Gasoline to Pacific	4,976	147,545
Deisel to Pacific	.....	36,239
Crude to Atlantic	1,040,987	979,676
Crude, foreign	44,000	97,804
Fuel oil, foreign	129,256	269,022
Gasoline, foreign	225	.....
Deisel, foreign	.....	40,000

Texas

NORTH CENTRAL AND WEST TEXAS

	This Week	Last Week
Corsicana-Powell	318,970	271,770
Mexia	42,300	43,400
Burkburnett	23,800	23,700
Electra	23,340	21,725
Stephens County	20,310	21,100
Archer County-Holliday	19,130	17,540
Ranger-Eastland	8,310	8,050
Desdemona-Gorman-Pioneer	5,680	5,790
Young County	4,160	5,435
Moran-Shackelford County	3,855	4,475
Currie	3,520	3,660
Kemp-Munger-Allen	1,190	1,280
Iowa Park	830	825
Mitchell County	750	810
Strawn-Palo Pinto County	735	705
Brown County	515	560
Petrolia-Clay County	470	455
Reagan County	150	150
Coleman County	135	135
Richland	110	110
Thrall-Williamson County	60	65
Jack County	35	30
Totals	478,355	431,830

GULF COAST

Hull	24,100	19,525
Orange	15,400	17,000
West Columbia	14,600	14,750
Goose Creek	13,500	13,675
Humble	5,600	5,600
Sour Lake	5,165	5,330
Damon Mound	1,950	1,975
Saratoga	1,760	1,735
Batson	1,200	1,205
Spindle Top	840	880
Blue Ridge	765	790
Pierce Junction	680	625
Barbers Hill	350	375
Markham	110	110
Nacogdoches	110	110
Big Hill	100	110
Dayton	65	65
High Island	50	60
Richmond	....	....
Total Gulf Coast	86,345	83,920
Total North Texas	478,355	431,830
Luling (Caldwell County)	9,500	10,000
Mirando	5,350	5,500
Somerset	3,000	3,050
Rockdale-Minerva	650	675
Totals for Texas	583,200	534,975

Condensed U. S. Production for Twelve Months

(Stated in Barrels)

This table is carried each week by The OIL WEEKLY, and shows daily production average for each state or section. Figures for Oklahoma, Kansas, Texas, Louisiana, Arkansas and Mountain States are compiled by The OIL WEEKLY, while estimates for California and Eastern States are furnished by the American Petroleum Institute.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	†Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyoming-Montana	Calif.	Ark.	U. S. Total
August	726,981	217,208	105,966	323,148	89,998	419,775	97,936	120,750	83,938	375,000	28,834	1,618,765
September	716,107	207,467	107,790	314,932	89,760	418,880	101,857	114,200	80,490	387,000	33,135	1,540,371
October	714,906	200,465	115,130	316,370	90,404	424,037	97,502	116,375	86,412	423,750	34,127	1,489,005
November	711,521	199,223	114,150	388,376	91,098	421,200	93,410	116,375	106,092	450,000	77,225	1,668,776
December	692,702	170,187	111,819	242,010	87,508	435,007	86,513	114,900	108,679	484,000	107,732	1,722,349
January (1923)	708,372	184,885	115,678	304,790	86,720	436,767	81,205	113,500	123,254	517,500	111,920	1,770,645
February	712,007	180,364	96,984	286,493	85,298	446,345	78,068	112,500	110,328	587,500	101,346	1,805,496
March	720,287	184,582	89,873	283,355	86,012	449,693	75,352	109,900	118,580	653,000	108,630	1,888,522
April	756,381	192,148	92,320	293,780	86,133	478,100	76,854	424,000	127,860	711,250	102,099	1,983,026
May	793,774	203,776	90,905	304,032	85,500	504,498	75,368	109,125	125,680	700,125	109,033	2,010,840
June	824,297	217,162	92,240	320,250	85,255	521,880	72,745	110,300	129,559	773,000	133,592	2,159,818
July	866,665	274,330	91,795	378,335	84,785	508,405	70,085	113,000	137,300	851,000	132,395	2,275,305
August	826,982	278,574	94,398	393,780	82,741	464,416	68,739	112,625	137,909	866,250	123,000	2,251,966
September	830,517	371,730	93,649	443,461	77,078	421 763	68,935	108,400	157,742	85" 700	127,955	2,269.176
Week ending Oct. 6	828,110	351,310	83,995	455,180	72,300	404,500	65,760	109,000	165,500	850,000	122,590	2,244.330
Week ending Oct. 13	847,160	370,660	82,220	472,580	72,000	404,500	65,360	107,500	89,850	821,000	122,530	2,155,320
Week ending Oct. 20	891,356	431,830	83,920	534,975	70,500	389.026	65.430	107.000	159,050	820.500	125.250	2,271,731
Week ending Oct. 27	937,610	478,355	86,345	583,200	70,650	388,605	65,170	107,500	145,250	801,000	130,210	2,291,585

*Includes North-Central Texas, Kansas, Oklahoma.
†Beginning February, 1923, Somerset, Mirando, Rockdale and Luling production included.
NOTE—Mexia production included in North Central Texas.

(U. S. Completions on Page 48)

California Crude Buyers Competing for Oil

(Continued from page 35)

they should be completed in the next 30 days, if no bad trouble is had. It is estimated that 100 wells should be completed in this field by January 1, but most of them are expected to be small wells.

Sand Not So Thick

The sand at Torrance is not much over 200 feet in thickness and they have already learned that it is a mistake to drill too deep. One producer is showing a little water from the bottom and it will have to be plugged back a few feet to keep the water from increasing. Only one well in the new district at Torrance was completed last week and it made only 1200 barrels. These wells in another few weeks are expected to have a flush of less than 1000 barrels each.

The field appears to have a dip to the south and east, probably as much as 100 to 150 feet, but whether it will dip much to the east is yet to be seen. The Standard's Dominquez 1, one mile east of production, is yet to be tested. Casing has been cemented, but has not been drilled out. In about three weeks it may be possible to test the area two miles east of production when the Shell's Keystone reaches the point where the pay should be.

Well in Old Richfield Area Makes 2500 Bbls.

Los Angeles, Calif., Oct. 27.—Early in the week the Union Oil Company's Morse 4 at Richfield, in an old producing district, blew in when making a test after setting 8¼-inch at 4310 feet, with bottom of the hole at 4117 feet, making about 2500 barrels of 25.4 gravity oil. It soon sanded, but when it came back it caught fire and the derrick was destroyed.

Live steam was used to extinguish the flames and now the well is producing after being pinched to about 900 barrels. It made 60 barrels an hour Thursday when flowing through 1-inch choker, but since has been beaned down to 7/16-inch flow. The pressure is very strong and the oil is clean.

This well is near the same company's Morse 3, which blew in some two years ago in a very similar manner and also caught fire. It was also saved and is still producing. Several wells in the general vicinity of the Union Morse lease are producing from around the 4100-foot level.

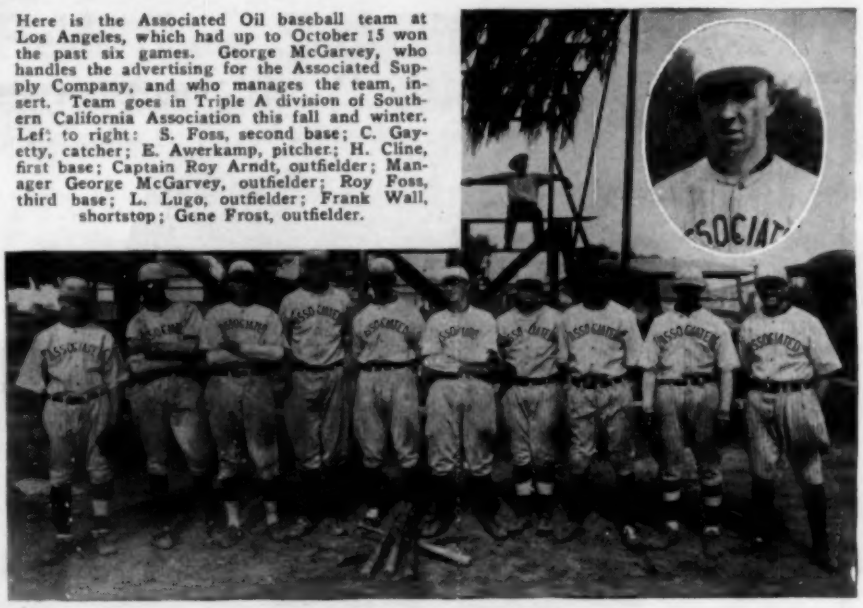
New California Plant to Use Signal Hill Crude

Los Angeles, Calif., Oct. 20.—The Western Refining Company has let a contract for the erection of a refinery plant at Wilmington Harbor, just south of and adjoining the refinery of the Union Oil Company. The Southwestern Engineering Company of Los Angeles will construct the plant, and work is already under way. Plant will be completed and ready for operations by early spring.

A 20,000 barrel pipe line will be laid to Signal Hill and it will be in operation by the time the refinery is completed.

The Western Refining Company is organized and managed by men long experienced in the refining field. Richard Florian, president and general manager, has been connected for 18 years with the Standard Oil Company and for the last ten years has been managing director of a Standard Oil subsidiary. The plant will be constructed and operated under the direction of R. R. Rakestraw, vice president of the company and for 20 years chief engineer for the Standard Oil Company, both in domestic and foreign service.

It is stated that contracts have already been offered for the entire output of the refinery for export purposes, and Mr. Rakestraw is now in Europe perfecting these arrangements.



Here is the Associated Oil baseball team at Los Angeles, which had up to October 15 won the past six games. George McGarvey, who handles the advertising for the Associated Supply Company, and who manages the team, insert. Team goes in Triple A division of Southern California Association this fall and winter. Left to right: S. Foss, second base; C. Gayetty, catcher; E. Awerkamp, pitcher; H. Cline, first base; Captain Roy Arndt, outfielder; Manager George McGarvey, outfielder; Roy Foss, third base; L. Lugo, outfielder; Frank Wall, shortstop; Gene Frost, outfielder.

Standard Oil Company's No. 2 Brownrigg-Keller at Santa Fe Springs, California.

Deepest Rotary Hole in World Abandoned at 7212

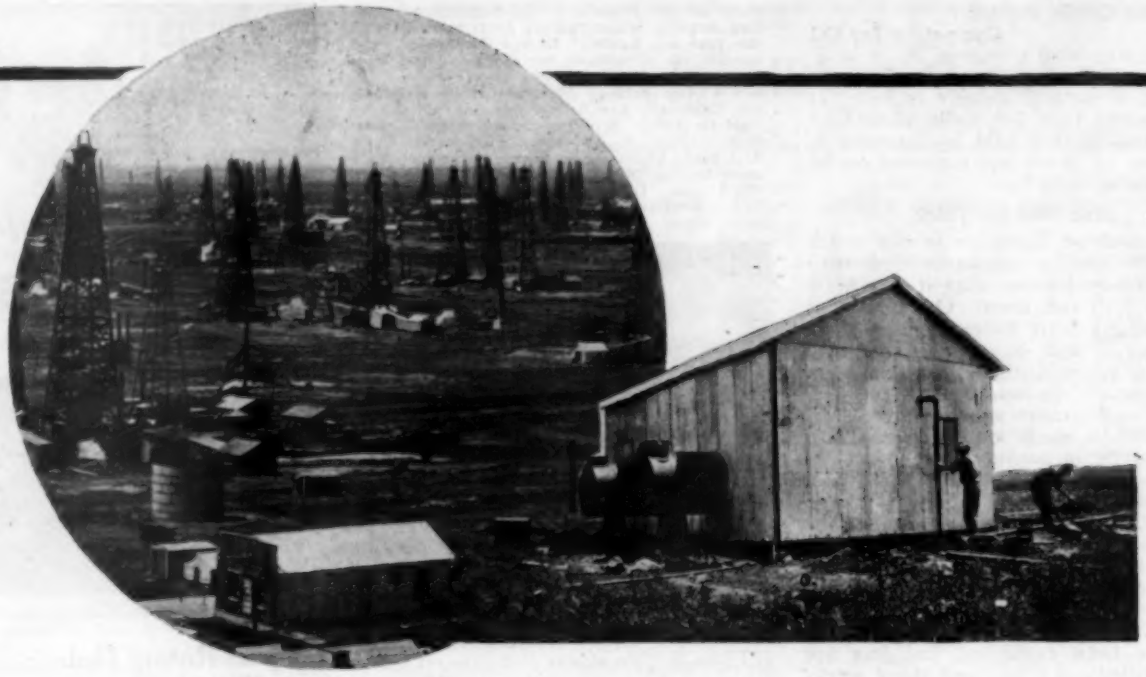
Los Angeles, Calif., Oct. 27.—The Standard Oil Company of California is preparing to abandon No. 2 Brownrigg-Keller at Santa Fe Springs after reaching a depth of 7212 feet, a world record for depth in a rotary drilled hole. The well was spudded September 14, 1922, and very likely will be abandoned before the end of this month. The driller who spudded the well is still on the job.

This well is an offset to Brownrigg-Keller 1, which flowed for several months and which is now on the pump. At the same depth of No. 1, the No. 2 well encountered only 30 feet of pay, which it was decided was not sufficient to develop. No oil or gas has been found at the greater depths.

Until a depth of better than 7000 feet the hole had been unique in that there had been no fishing job, and the first job of this kind came at slightly less than 7200 feet. It required eight hours to make round trip with drilling pipe to change bits.

Los Angeles, Calif., Oct. 27.—The city council of Los Angeles has been urged by the board of public works to amend the present ordinance regulating the sale of gasoline and other petroleum products to require that labels be placed on all pumps clearly stating kind of product for sale. The aim of the amendment is to reach those who mix natural gasoline with naphtha and sell it for gasoline. The council has the matter under advisement.

Los Angeles, Calif., Oct. 27.—With the arrest of E. Guy King at Fort Worth and Gerard Chambers in Los Angeles, it is now stated that 11 men have been arrested on bills recently returned by a federal grand jury in Los Angeles charging use of mails to defraud in the sale of oil stock. The last two men were connected with the Eliasville (Texas) Pool Syndicate. Hundreds of persons in California invested in the syndicate. It is understood that other indictments in the matter of oil stock sales are expected.



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Oklahoma Fields Show Slackening Activity

Production drops slightly—Fewer new rigs indicates further drilling decrease

Tulsa, Okla., Oct. 31.—Taking the state as a whole, Oklahoma experienced one of the quietest weeks in her history as far as oil is concerned, during the past seven days. Hardly any of the fields have fully recovered from the damage done by recent rains, and drilling statistics indicate a further decline in the number of new rigs, the number of completions, and also in the number of wells drilling. Production figures show a drop of approximately 3000 barrels against last week.

Tonkawa and Burbank, the two most important pools in the state, both show declines in the amount of oil produced, and this decrease is becoming gradual with each week.

Perhaps the most important completion of the week was in No. 3 Beona Farris, brought in by the Murray Oil Company and W. L. Clark, in the southeast corner of the northeast of 36-17-8. This well is producing approximately 200 barrels from the Bartlesville sand at 2723-45 feet. Gas was encountered at 2723 feet. This well coming in as a paying producer means the extension of the Bristow pool about half a mile to the north. The oil is being run to the Roland refinery at Bristow.

In Osage County, Marland Oil Company's No. 1 Charles Pettit in the southeast of 20-23-8, northwest of Hominy, produced at an average of 325 barrels per hour for two hours last Friday. The sand was topped at 2610 feet several days ago, but the well was immediately shut down. This well is shut in now and will remain so indefinitely.

The Magnolia Petroleum Company's Parker 1, at the northeast corner of the northwest of 32-8-8, Seminole County, which has been flowing about 300 barrels a day from sand touched at 3175 feet, has been drilled deeper and found water at 3187 feet. This is taken as an indication that the producing area of the Wewoka field does not extend very far westward, as this well is the farthest west of all the other producers in the field.

In the Burbank extension, The Texas Company's No. 1, at the southwest corner of section 3-27-5, was drilled in last week and started off at 85 barrels an hour from 2903 feet. The sand was picked up at 2876 feet, and the first flow of oil came from 2891 feet.

At a meeting of the Burbank operators held in Tulsa, Tuesday, October 30, it was agreed that few wells will be drilled in the northern part of the Burbank field. These wells are located in the southeast and southwest quarters of section 4-27-5, and the northeast and northwest quarters and near the center of section 9-27-5. All these wells are within a half mile of each other, and are offset wells.

One of the biggest producers yet found in the Graham field is Wirt Franklin's No. 1 Gallagher-Ledbetter, which is flowing about 900 barrels of crude from sand topped at 2008 feet. In the same field, Patsy-Kirk No. 6 Palmer, northeast of northeast quarter of 6-3s-2w, is flowing approximately 200 barrels from sand touched at 2810 feet. This well is being drilled deeper in the hope of encountering gas to increase the pressure. The sand is believed to be exceedingly rich in oil but there is little gas pressure.

Preparations are being made to test a sand encountered a little below 3600 feet in a wildcat three miles east of the town of Spencer, in the southeast corner of section 29-12n-1w. A good showing of oil sand is reported, and geological reports are favorable to the vicinity in which the well is located.

Quite a sensation was caused in Tulsa when the Westland Oil Company, Munn Brothers, and H. B. Glidden brought in their Mackey No. 3, in the northeast of 28-20-12, Osage County, last Wednesday. The well came in for approximately 1500 barrels after having been deepened. It was originally brought in on October 1 for about 30 barrels from the sand topped at 3030 feet. When deepened 12 feet, production jumped to about 75 barrels per hour. The oil tests 38½ gravity. Nos. 1 and 2 on this tract were completed in June and are making approximately 50 barrels from the Wilcox sand. These wells are little more than two miles from the city of Tulsa.

Wewoka Drilling Report

Ossenbeck et al's Davis 1, C SW NE 10-8-7, pulling liner 3312 ft.

Ramsey et al's Frantz 1, NEc SW 19-8-8, drilled to 3288 ft and sd; Wewoka 1, C S L N½ 19-8-8, sd 1594 ft.

Magnolia Petroleum Co.'s Jim Bowlegs 1, NWc SE SW 21-8-8, moving in tools.

Davis, Crosby & Sloan's Foster 1, C NW NE SW 28-8-8, dr 2250 ft.

Amster et al's Foster 1, C SE SE SW 28-8-8, lcn.

R. H. Smith's Chas. Foster 1, SWc 28-8-8, dr 1300 ft; Foster 2, SWc SE SW 28-8-8, rig.

New England Oil & Production Co.'s Walker 1, SEc SW SE 29-8-8, lcn.

Independent Oil Co.'s Walker 1, SEc 29-8-8, sd for pipe line 3110 ft.

W. R. Ramsey's Willis 1, NEc SE NE 31-8-8, dr 2000 ft.

R. H. Smith's T. Walker 1, SEc NE NW 32-8-8, rig; Long 2, NWc SE NE 32-8-8, dr 2350 ft; Long 3, SWc NE NE 32-8-8, rig; Long 4, NWc NE SE 32-8-8, rig; Foster 4, C E L NE NE 32-8-8, sand 3101-8 ft, 35 bbls, set 6-in; Foster 3, NEc 32-8-8, r 2125 ft; Foster 4, SWc NE NE 32-8-8, dr 900 ft; Harris 1, SEc NW NE 32-8-8, dr 1300 ft; Harris 2, SWc NW NE 32-8-8, rig.

Producers & Refiners' Long 2, NEc SE SW NE 32-8-8, dr 930 ft.

Independent et al's Long 2, SEc NE SW NE 32-8-8, dr 310 ft; Long 3, NWc SW NE NE 32-8-8, dr 200 ft; Foster 1, NWc NE SW NW 33-8-8, fsh 3010 ft; Foster 2, NEc SW NW 33-8-8, dr 1045 ft.

R. H. Smith's Foster 2, NEc NW SW NW 33-8-8, dr 2120 ft; Dunn 1, NEc SE NW SW, 33-8-8, dr 1520 ft; L. B. Long 2, SWc NW NE SW 33-8-8, cellar; Parker 1, SWc NE NW 33-8-8, dr 630 ft.

Producers & Refiners' Foster 4, SEc NW NW 33-8-8, dr 1800 ft; Foster 5, NWc 33-8-8, r 1870 ft; Foster 6, SEc SW NW NW, dr 2430 ft.

Magnolia Petroleum Co.'s Parker 1, NWc SE NW 33-8-8, sd 3030 ft.

Lewis Clark's Long 1, NWc SW NE SW 33-8-8, dr 3182 ft.

THIS WEEK IN OKLAHOMA BY TABULATION

Field—	New Rigs	Locations	Completions	Producers	Gas wells	Failures	Initial Prod.
Ardmore	13	5	4	3	1	..	1,085
Bristow	15	3	7	2	..	5	230
Cushing	17	9	2	1	..	1	90
Duncan	6	4	12	2	3	7	450
Garber	6	4	1	..	..	1	...
Muskogee	6	..	7	2	2	3	3
Okmulgee	49	2	7	5	..	2	175
Osage	42	23	6	4	..	2	575
Tonkawa	33	4	5	4	..	1	475
Weleetka	17	10	4	3	..	1	775
Total	204	64	55	26	6	23	3,810

Peer Buys Riverland Leases in Oklahoma

Tulsa, Okla., Oct. 30.—Negotiations for the purchase of the larger part of the holdings of the Riverland Oil Company in Osage, Okmulgee, Wagoner and Muskogee Counties, by the Peer Oil Company with headquarters at Houston, Texas, were completed here Saturday, October 27. The consideration was about $350,000.

A tract of 320 acres about two miles north of Tulsa is among the more important properties acquired by the Peer. The Riverland company had a 700 barrel producer on this tract, said to be flowing from the Wilcox sand at 2058 feet. Other properties are located in the Phillipsville district, where there are something like 10 wells making about 80 barrels.

This is the third big oil deal to be consummated here this fall. The first was the sale of part of the settled production of the Waite Phillips Company in Northern Oklahoma, to the Mid-Kansas Oil and Gas Company. The second was the purchase of one-fifth of the interests of the Oklahoma company by the Dixie Oil Company, the latter being a subsidiary of the Standard Oil Company of Indiana.

Marion County, Kansas, Gets Big Producer—Wildcat Also Has Show

Eldorado, Kans., Oct. 30.—Newton Oil Corporation's Wetchensky well northeast of Newton, is thought to be the best well ever found west of Marion County production. The Wetchensky well has been on the pump for several days and is maintaining a steady output of about 13 barrels per hour.

Two offset tests to this well are said to be under way. Wetworth Brothers of Peabody are hauling material to their location on the north half of the northeast quarter of section 4-32-2. Newton Oil Corporation will drill an offset on the Hawk farm, north half of the southeast quarter of section 4.

Something like 3,000 barrels of storage facilities have been provided for the Wetchensky well, and the oil is now being run to a loading rack on the Santa Fe railroad at Walton, and shipped in tank cars to the Derby Oil and Refining Company's plant at Wichita.

It is reported that a wildcat test in Northeastern Harvey County will be started soon by Peabody interests.

In Northern Greenwood County, the Empire Gas and Fuel Company is spudding in on No. 1 Harris, northwest of northeast of section 19-22-11. This test is an offset to Simmons et al's No. 1 Harris, which has been a wildcat producer for some time.

The 10,000,000-foot gas well drilled by W. S. Collins et al on the Stout farm, section 8-31-6, Northern Cowley County, is creating a good deal of excitement. Several tests are getting under way on land immediately surrounding this well. The gas well is hooked up to the Empire pipe lines and is holding up well in its production.

Flitch and McGinnis are resuming work on the Watson test, section 36-24-4, southeast of Potwin. The test has been shut down for several weeks, and is said to be just on top of the pay sand.

Bibliography Bulletin Ready for Distribution

Washington, D. C. Oct. 30.—The publication of bulletin 220, "Bibliography of petroleum and allied substances, 1921," by E. H. Burroughs, is announced by the Department of the Interior through the Bureau of Mines. This bulletin is the sixth in the series of petroleum bibliographies published by the Bureau of Mines, bulletins 149, 165, 180, 189 and 216 being compilations for the years 1915, 1916, 1917, 1918 and 1919-1920, respectively. About 200 differed periodicals have been examined in the preparation of this bibliography, which comprises 230 pages and refers to nearly 3000 articles, treatises, etc., relating to petroleum and allied substances. These references cover the geology and origin of petroleum; the petroleum fields of all countries; development and production problems; transportation, storage and distribution; properties of oils and their determination; refining and refineries; utilization of petroleum products; legislation and legal regulations, etc.

Hundreds of articles are cited relating to such subjects as well drilling methods; the use of explosives in drilling operations; pumping of oil wells; oil and gas pipe lines; tank cars, wagons and steamers; oil storage; analytical methods; cracking processes; recovery of gasoline from natural gas; use of fuel oil; lubrication; fire hazards, etc. Several hundred patents relating to petroleum are listed.

Copies of bulletin 220 may be obtained from the Department of the Interior, Bureau of Mines, Washington, D. C.

Italian Government to Favor Private Concerns

Washington, D. C., Oct. 27.—New government plans for oil exploration in Italy will materially reduce tne government's share in this work and allow greater initiative to private enterprise, according to a report just received by the petroleum division of the Department of Commerce from the American consul at Rome. It is explained that the government's function will henceforth consist in carrying on exploration in limited areas, mainly new fields in which oil indications exist and where state help is necessary as a preliminary inducement to private enterprise. The government does not intend to operate oil wells after oil has been proven to exist in paying quantities, but will grant concessions.

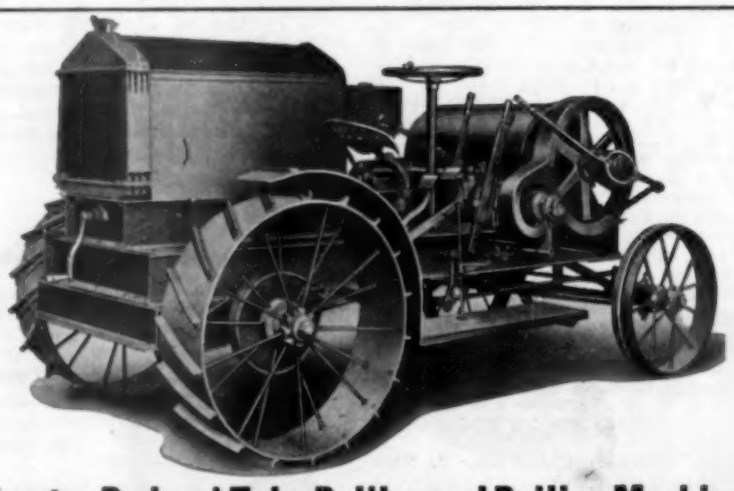
Top Stocks Continue to Increase in California

Los Angeles, Calif., Oct. 27.—According to reports from 41 refineries operating in California during September, as made to the Bureau of Mines office at San Francisco, 13,382,560 barrels of crude was run through the stills, while the output was 103,618,605 gallons of gasoline, 17,296,559 gallons of kerosene, 366,343,456 gallons of gas and fuel oil, in addition to other products. At end of month stocks included 17,297,396 barrels of crude and partly refined products, in addition to 144,099,126 gallons of gasoline, 27,703,802 gallons of kerosene, 511,220,421 gallons of gas and fuel oil, etc. Gross stocks of tops at end of month was 371,452,299 gallons. Stocks of tops have grown from 104,902,102 gallons since the end of February, this year.

Wichita Falls, Texas, Oct. 29.—The principal offices of the Panhandle Refining Company are being moved this week from Dallas to this city, where headquarters will be established on the ninth floor of the Staley Building. The Panhandle Company has a refinery on the outskirts of Wichita Falls, and the bulk of its producing properties are in the North Texas district in Wichita, Archer and Young counties.

Casper, Wyo., Oct. 29.—An oil showing with gas is reported from the test of the Goose Creek Oil and Development Company well drilling in the southwest quarter of section 20-15s-21e, near Oakley, Idaho.

At 1000 feet the first showing was found. A second was encountered lower, where the well is shut down awaiting tools and other equipment.



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Patents Applied For and Pending

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OLEAN, N. Y.

Price Cut Comes With High Output at Powell

Drilling indicates that pool may continue still farther in southwest trend

Corsicana, Texas, Oct. 30.—Continuation of the flood of flush production in the Corsicana-Powell field by the completion of a number of big wells in the southwest end of the field was followed by a 25 per cent reduction in the crude price October 30 by the Magnolia Petroleum Company. This brings the price to its previous low level of 75 cents per barrel for the high gravity oil, but is not expected to have any material effect toward curtailment of drilling and production, as the field is largely controlled by companies that have their own pipe line and storage facilities, except the Tidal-Buttram interests, who maintained a daily average of 65,000 barrels last week and are selling the bulk of this oil to Magnolia. Although Magnolia has a half interest with The Texas Company on two leases making about 7800 barrels daily, it has been the principal purchaser of oil produced by concerns without pipe line facilities in the field, and runs made during the past week ranged from 70,000 to 80,000 barrels daily through its four six inch lines serving the field.

Among the completions registered late last week was the E. L. Smith Oil Company's Wheelock-Keith 2, which flowed at the rate of 14,500 barrels daily from the Woodbine sand at 2916-62 feet and increased the possibilities of further extensions to the field, as it is an offset to the last extension made to the southwest and in the general trend of production. This lease afforded the last extension made to the field when the first test was drilled in October 13 flowing 6300 barrels daily at 2935-66 feet and for the week ending October 27 this well maintained a daily average of 4910 barrels. Both of the above two producers on the Wheelock-Keith 38 acre lease are west of the railroad tracks and within 2500 feet east of a 3309 foot dry hole in the Bragg survey.

Wells Being Watched

Since the field has been proven for production in a straight line for a distance of about seven miles to the southwest of the discovery well, near Powell station, and within an unexpected close distance to a deep dry hole, the operators are cautiously watching formations in tests drilling in advance of production. Of particular interest is Webster & Pickens' T. E. Boyd 1, about three quarters of a mile to the southwest and in the general trend of production from the Wheelock-Keith wells. Reports regarding the depth at which this test entered and passed out of the Austin chalk formation have been confusing, but last Thursday the owners applied to the Magnolia for pipe line connections with the statement that the drill had passed out of the chalk at a uniform depth and favorable for production. Later in the week this test developed a fishing job in hard formation at 2730 feet, and is being unavoidably delayed in completion. In the event this test proves to be a big producer, the field is expected to sweep considerably further to the southwest, and a few of the operators are predicting it to connect up with the Richland field, which lies to the southwest.

CORSICANA PRODUCTION

Corsicana, Texas, Oct. 31.—The daily average production for the field for the past week was divided as follows:

	Barrels
Humble Oil & Ref. Co.	107,700
Tidal Oil Co.	70,000
Gulf Prod. Co.	33,000
Humphreys Oil Co.	22,800
Atlantic Production Co.	15,900
Texas Company	12,000
Roxana Oil Co.	8,850
Texas-Magnolia	8,700
Garland Kent	8,200
E. L. Smith Oil Co.	7,200
Skelly Oil Co.	6,500
Witherspoon Oil Co.	4,000
McMann Oil Co.	3,700
Kirby Petroleum Co.	3,300
R. E. Brooks, Jr.	2,500
The Sun Co.	1,150
U. S. Tex Oil Corp.	830
Cosden Oil & Gas Co.	550
J. K. Hughes Dev. Co.	530
Mitchell & Jones	525
New Domain Oil Co.	370
Simms-Tucker	350
T. F. Hunter et al	215
Dick Webster et al	100
Total	318,970
Last week	271,040

Output Still High

The daily output of the field for the week ending Saturday held close to the 300,000 barrel mark, with 379 wells on the producing list, or an average of about 779 barrels per well. Of this amount the Humble Oil and Refining Company was producing about 100,000 barrels daily, or one third of the total output, from 119 wells on 20 separate leases. The Tidal Oil Company and Frank Buttram, geologist of Oklahoma City, were credited with about 65,000 barrels daily from 28 wells, while the Gulf Production Company ranked third with a daily average of approximately 31,000 barrels from 50 wells. The Humphreys (Pure) Oil Company's 65 completed wells on the Kent and McKie leases were credited with 18,000 barrels daily. Pipe line, field storage and tank car facilities serving the field are inadequate, and many of the wells are pinched, but in the meantime every effort is being made to augment transportation of the oil from the field.

Shipments of crude from the field in tank cars have been greatly increased lately by Gulf Production Company, Humble Oil and Refining Company and Atlantic Oil Producing Company in order to expedite the removal of surplus production from the field. Gulf is dispatching trainloads daily from two loading racks near the field to its refinery at Fort Worth, and has a freight rate amounting to 41.958 cents per barrel, while Humble is shipping its oil to Baytown refinery near Houston at a rate of 43.51 cents per barrel, and the same rate applies on Atlantic's tank car shipments to storage tanks at Port Arthur.

Since The Texas Company's production has increased close to 25,000 barrels daily on the R. D. Fleming lease

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Second Deep Producer at Curry Gives Hope of Extensive Lime Rock Formation

Fort Worth, Texas, Oct. 30.—Completion of another well in the recently discovered second lime pay formation in the lower end of the Curry pool in Stephens County last week, with initial flow of 670 barrels, has strengthened the belief of operators that an extensive producing horizon underlies the present developed field and is responsible for wells in the regular pay in this section of the county holding up better than the average for lime territory. The deep producer was drilled by the Republic Production Company on the G. P. Jones 160 acre lease in southwest quarter section 33 and flowed natural from lime pay at 3870-76 feet, but the flush was of short duration as the output of the well slumped to 400 barrels during the second 24 hours. This well failed to make a producer from the regular 3200 foot lime pay, and was carried deeper. The second pay was discovered last June by Republic when its Jones No. 2 also failed to make a producer and drilled into lime pay at 3871-75 feet with an initial flow of 320 barrels and 5,000,000 cubic feet of gas.

Old producers in the Curry pool have held up in production considerably better than other sections of the county, and the discovery well, which was completed April 9, 1920, by Haile & Knight on the O. Curry lease with an initial flow of 225 barrels, continues to flow natural at the rate of about 30 barrels daily, while an offset test has proven equally as good. Late last week the Haile & Knight interests' E. H. Shipley 1-B, located on west edge of the Curry pool and in southeast quarter of section 83, blew in unexpectedly while tools were in the hole and made 5000 barrels fluid, of which about two-thirds was 40 gravity oil from regular lime pay at 3146-57 feet. The flow increased to 7000 barrels of fluid on the second day, but included about 4000 barrels of water. The Humble Pipe Line Company is taking the oil as it is treated. This well is one of the largest completed to date in the Curry pool.

A shallow producer in wildcat territory in Young County is promised from Smith & Newman's S. M. J. Benson 1, which last week drilled into an oil sand at 893 feet and filled up with oil. This well is located in block 1397 near Archer County line, about seven miles northeast of Olney, and storage tanks are being erected. It is expected that the well will make a 30-barrel pumper if deeper drilling doesn't result in water trouble.

A half interest in the properties of Swastika Oil Syndicate, which discovered the Swastika pool in Southwest Archer County, have been acquired by P. P. Langford and Tucker of Wichita Falls for a consideration of approximately $70,000. The properties include eight producing wells, with a combined daily output of about 350 barrels and slightly more than 1000 acres of proven and semi-wildcat in Archer County. Continued rainy weather has interfered with drilling operations in Archer County, and completions have been fewer in numbers for the past two weeks.

---

in the southwest end of the field, and a number of tests are down to the sand pay awaiting completion, it has been forced to rush another six inch pipe into the field from its Corsicana pump station. This new line will be completed within 10 days, and will give Texas three lines in the field. It is reported that the Gulf Pipe Line Company is contemplating the construction of an eight inch line from the field to Lufkin, in East Texas, where it will tie into Gulf's Oklahoma, North Central West Texas and Louisiana-Arkansas trunk lines leading to the coast.

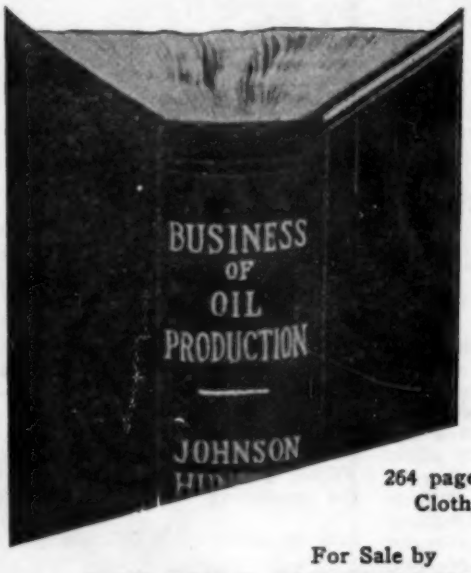
Cacalilao Field Is the Active Spot in Mexico

Tampico, Tamps., Oct. 28.—The Freeport and Mexican Fuel Oil Company has completed well No. 14, lot 3, Cacalilao, for 4000 barrels at 1770 feet, subsea level 1599 feet.

The Corona Company has finished well No. 38, lot 4, Cacalilao, for only 250 barrels at 1804 feet. Its well No. 42 on lot 4 is a dry hole at 1830 feet.

On being connected last week the Smith well at Cacalilao flowed 30,000 barrels daily. The Clark well made 11,000 barrels, while Wilmuth & Holiday's well flowed 6000 barrels.

The Mexican Gulf Oil Company is to build a new pump station at Cacalilao shortly and will lay a line to No. 11, which was completed last month for 15,000 barrels.



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High Gravity Sand Found By Magnolia in Webb County

Mirando City, Texas, Oct. 30.—Another high gravity sand has been picked up by the Magnolia Petroleum Company in a test drilled in the edge of the Schott pool in Webb County. The old Magnolia No. 2, which was completed as a pumper, was deepened under instructions from Jack Proctor, field superintendent, who wanted to put it down to the light oil found in No. 12. At 1935 feet the No. 2 ratholed into light oil and a Star rig is now being put on the hole to drill in. It is believed it will make a better producer than the No. 12 of the Magnolia or as good as the Carnahan 8, both producing light oil, too.

Cole Petroleum Company is preparing to pull the liner in its No. 3 and set a packer to cut off water, which seems to be coming in from above the rock. If the packer does not work the well will be cased down the lime. It is 3300 feet deep.

Bailing began in the Schott 19 last week, block 20, Los Ojuelos grant. A new arrival in the field is Charles G. Chandler of Evanston, Ill., who shipped a rig here from Luling, where he drilled several wells. Chandler is a drilling contractor and operator. He bought acreage here and plans to drill several wells. He has a crew recruited in Somerset.

The Magnolia Petroleum Company completed its fourth 55,000-barrel tank with asbestos covering on its fee property east of here. It is buying oil from practically every pool in this district and has two tanks full of crude and a third almost full and will turn its lines into the fourth at once.

Cin-Tex finished a workover job on its No. 1, block 50, Los Ojuelos grant, last week and increased production by pumping to 150 barrels. It went down to the second sand.

Magnolia Laying Line to Oriental Plant at Dallas

Dallas, Texas, Oct. 29.—A five inch pipe line approximately 21 miles in length is being strung by the Magnolia Petroleum Company as an extension from its main trunk line leading from Oklahoma to the Gulf Coast to a skimming plant located at West Dallas to deliver crude from the Healdton, Oklahoma, field to be refined, and the fuel oil manufactured applied on contracts made recently by Magnolia with local concerns at a flat rate over a period of one year. The extension will tap Magnolia's trunk line at a point near Mansfield, located southeast of Fort Worth, and will be completed within 10 days.

Magnolia has perfected a working agreement with the Oriental Oil Company of Dallas, whereby the 3500 barrels daily capacity plant, which has previously operated under the names of Eastland Oil and Refining Company, Aetna and Trinity Petroleum Corporations, and acquired last year by Oriental, is to be furnished with crude purchased and delivered by Magnolia from the Healdton field. Gasoline and other light oils turned out by the plant are to be handled by Oriental, while the fuel oil will be taken by Magnolia and applied on its contracts. Steel tankage is being erected by Magnolia at the Oriental plant for storage. A few years ago Magnolia constructed a small pipe line from its refinery at Fort Worth to Dallas to deliver fuel oil to industrial plants and buildings in the latter city, but the line was later taken up because of the difficulty in pumping the oil.

Two Wells at Luling May Extend Pool Two Directions

Luling, Texas, Nov. 1.—Eversole & Walsh completed Merriwether 4 Friday for about 1000 barrels and they report it is clean oil and free from water. Their other three wells, too, are making pipe line oil. Mr. Walsh attributes the freedom from water to care in drilling and to stopping well above the water line. The gas pressure is excellent. It is flowing by heads.

Interest, however, this week centers in two wells which may extend the field to the east and to the west. The Big Gusher Oil Company is completing Walker 1 located east of the field between the producing area and the townsite.

The Proctor 2 of the Seals Creek Syndicate also is drilling in this week and will extend the field several miles to the southwest if successful.

The town of Luling had a disastrous fire October 22, when several buildings were destroyed, entailing a loss of about $15,000. Several oil rigs were damaged, it is said, when it became necessary to shunt several flat cars hurriedly.

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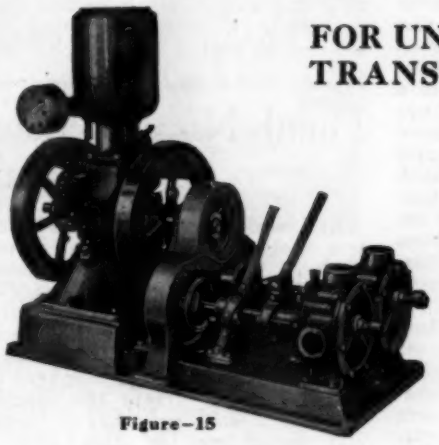

Figure–15

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Two North Louisiana Parishes Have Wildcats to Be Completed This Week

Shreveport, La., Oct. 29.—The two brightest spots on the wildcat map of North Louisiana will share the spotlight position this week—Union and Webster parishes.

At Oakland the Union Parish Drilling Syndicate is expected to drill the plug about Wednesday in its third Clark well, which is located in section 17-23-1e. The fact that this syndicate's second Clark well, drilled nearby, and a well drilled by Love Brothers in section 12-23-1w, have showed oil in small quantities gives rise to a hope that a new field may be at hand, and Louisiana operators are tensely awaiting the outcome of current tests.

Palmer & Davidson have set 6-inch casing at around 2070 feet in their test on the Frost-Johnson Lumber Company's tract, in section 18-23-1e, and Woodley & Collins are expected to set casing in a few days in their Newsom 1, in section 23-23-1e. The Empire Gas and Fuel Company, which is drilling on the Hamilton land in section 30-19-1e, near Downsville, took a core from a water sand at 1365 feet last week. Love Brothers are preparing to drill deeper, following a second test of salt water at 2244 feet in their Security Trust well, mentioned above. Starke and others are preparing to set 8-inch casing for the purpose of making a test of a show of oil observed at 1382 feet in their Little 1, in section 21-19-12, of Union County, Arkansas, located about six miles northeast of the group of Clark wells.

At Cotton Valley, in Webster Parish, Alfred Glassell's Oil Fields Gas Company has set 6-inch casing at 2510 feet in its Merritt 1, in the northwest corner of section 14-21-10. This test is located approximately a half mile west and north, respectively, of Dr. Webb's discovery gas well, in section 13, and the Fortuna's big Merritt gasser, in section 14. The fact that the latter of these wells sprayed oil in a very small quantity, and that they are both located on a structure which is roughly outlined at the surface by a five-mile crescent-shaped bend in Dorcheat Bayou, is seized upon by local creekologists as a basis for the hope that further or deeper drilling may reveal another "Gusher Bend".

The Oil Fields Gas Company also has set 6-inch casing preparatory to a test in its Pardee 1, which is located in section 27-23-10, about one mile north of the nearest production in the Webster Parish gas field.

The Sales-Walker Oil and Gas Company is drilling at 1800 feet in its Bolinger 3, located in section 30-23-11, about one mile northwest of the present proven limit of the Sarepta gas field.

The Texas Company is drilling below 3350 feet, probably with the Woodbine sand as its goal, in its Merritt deep test, located in section 5-22-10, Webster parish.

The Urania community, in La Salle Parish, is said to be in line for several more tests to be drilled in the immediate future by the Urania Petroleum Company and others, who are enthused drilled by that company.

The Ohio Oil Company is rigging up a wildcat test on the Bodcau Lumber Company's holdings in section 19-16-6, two miles west of the town of Bienville, in Bienville Parish. The Ohio Company is arranging to drill deeper, following a test of salt water at 2997 feet in its Teague 1, in section 10-23-7, northeast of Haynesville, in Claiborne Parish.

The Texas Pacific Coal and Oil Company's Roscoe well, near Mansfield, in section 22-12-13, De Soto Parish, has been completed as a gas well, after deeper drilling failed to improve its flow or reveal a showing of oil.

Pollack and associates are preparing to drill the 6-inch plug at 2500 feet in their Jenkins wildcat, in section 25-13-13, about five miles northeast of Mansfield, in De Soto Parish. The Garrett Synidcate is preparing to shoot and test at 2990 feet in its Platt wildcat, in section 36-13-14, about four miles northwest of Mansfield. Snell & Kinnebrew are shut down at 2917 feet, awaiting orders from headquarters at Shreveport, in their Thompkins 1, located in section 30-14-12, near Frierson.

The Louisiana-Texas Community Oil Company's French well, in section 34-23-16, near Vivian, in Caddo Parish, was put on the beam last week. It pumped for a short while at the rate of 150 barrels of oil per day, but it quickly sanded up. Preparations are being made to clean it out and drill it a little deeper.

The Dixie Oil Company has completed a 500-barrel well at a depth of 2807-12 feet in its No. 55 on the Robertshaw, in section 13-21-15, of the Pine Island district. The Fortuna Oil Company has brought in a 100-barrel flowing well from the chalk rock at 1630 feet, an the Robertshaw, located in section 23 of the same township.

The Louisiana Oil Refining Corporation's Garrett 3, an edge well located in the southwest corner of the northwest quarter of the southwest quarter of section 24-23-8, of the Haynesville field, was put on the beam Saturday, and is pumping at the rate of 90 barrels of pipe line oil per day from a total depth of 2864 feet.

Fourth Nacatoch Sand Test in Stephens County, Arkansas, Gets Salt Water Flow

El Dorado, Ark., Oct. 29.—The fourth test of the Nacatoch sand at Stephens, made at 1435 feet in the Arkansas-Invincible Oil Corporation's Wesley 2, located in the southwest quarter of section 18-15-19, has yielded only the usual salt water with a tantalizing show of oil, and it is likely that Stephens operators will now accept the conclusion that the shallow sand has no commercial possibilities in this field. The Nacatoch was encountered at an encouraging high level in this test. The well is now being drilled on down to the Blossom sand, from which wells in this field produce.

The Gulf Refining Company is drilling ahead slowly and coring frequently at about 2315 feet in its Dawson wildcat, which is located in section 10-15-18, Ouachita County. Bray & Hawthorne are setting 8-inch casing at 1215 feet in their Halford 1, a wildcat located about six miles southeast of Camden.

Wildcat Abandoned

The Miller Trust has abandoned its Stone wildcat, in section 36-12-20, Nevada County, following a dry test at 2560 feet. It is located about eight miles northeast of the Irma field. Steele & Sandlin are preparing to resume drilling in their Martin operation, located in section 13-14-22, which has been shut down for several weeks at a depth of 62 feet. The Prescott Oil Company is drilling at 1740 feet in its Henry well, in section 10-12-20, about 12 miles southeast of Prescott and about five miles southwest of Sayre. The Transcontinental Oil Company has begun drilling and is down below 500 feet in its Blakeley 1, which is located in section 14-13-20, of the same general territory. Wooten et al, who are drilling on the Moore-Martin tract, in section 9-13-20, are reaming hole preparatory to setting 8-inch casing for the purpose of making a test of seven feet of sand at a total depth of 1120 feet.

The Hope-Columbus Oil Company has begun drilling and is down below 1000 feet in its King 2, a wildcat located in section 24-11-25, near the town of Washington, in Hempstead County. Meyer and others are drilling below 1650 feet in their Nicholls 1, located in section 17-11-25, of this same community. Orr and associates are drilling at around 1600 feet in their Yates 1, located in section 19-12-23, near the town of Chelsea.

Brown and others are drilling at 2815 feet in their Robinson 1, located in section 23-18-23, near Bussey, in Columbia County. Hickman & De Soto are drilling at around 800 feet in their Fullenwilder 1, which is located in section 3-16-21, about seven miles north of Magnolia.

Bondurant and others have begun drilling, and are setting surface casing at 212 feet in their Turbeville 1, located in section 9-18-12, of Union County, about four miles north of Strong. Garrett and others have begun drilling, and are down below 900 feet in their Robinson 1, located in section 33-18-14, about six miles east of the El Dorado South field. The Federal Petroleum Company is drilling at 2720 feet in its No. 2 well on the Union Saw Mill Company's property, in section 28-17-12, near New London.

Graves and others are drilling below 1500 feet in their Karnes 4, located in section 10-13-6, near the town of Monticello, in Drew County.

The Grant County Oil and Development Company is drilling at 1510 feet in its test being drilled on the Cargile property, in section 26-5-12, of Grant County.

The Dudley Trust is shut down at 688 feet, pending a decision as to whether or not a test will be made of a shallow sand and a show of oil logged at 515 feet in its Grayson wildcat, located in section 35-9-18, near Sparkman, in Clark County.

Eastern Fields in for Sluggish Season, With Gas Wells Demanding Major Attention

Pittsburgh, Pa., Oct. 29.—East of the Mississippi River oil producers are doing only the work necessary for lease protection. The bulk of the work is deing done by the natural gas companies. A number of excellent wells are reported for the week, but operators have curtailed development to a point where there is no longer any great activity in any section outside of the gas area.

General conditions have improved to a point where the oil people are taking a more encouraging view of the future. It is realized that much of an improvement can not be looked for during the next few months, but early spring should bring about a more healthy development, especially in shallow sand fields, of which there are many in the Eastern fields. The winter months will show no change from other seasons, as there will be little done in the way of drilling and seldom is when conditions are better during the cold season. The business is bound to come back; the consumption is too large and increasing, once there is a demand for the storage oil.

The old Boliver field of Southern New York comes to the front with an exceptional well for the old field by the completion by Jennings & Frairie of a 60-barrel producer on their own land. This is the best well reported for the year from the New York area.

Pennsylvania is credited with only one well for the week, a 5-barrel pumper found in Allegheny County, while Greene County produced the gas volume, which amounted to 19,000,000 cubic feet from seven wells. The best oil well reported for West Virginia for the week was 25 barrels, which comes from the Clay district of Wetzel County, and found by the McGuffey Oil and Gas Company, and being a test which extends the producing area a slight distance.

Southeastern Ohio comes with surprises for the week, there being two wells of larger calibre than common there. The Pure Oil Company drilled in a 75-barrel producer on the Shaw lease, in Licking township, Muskingum County, and the Leonard Oil and Gas Company a 40-barrel well on the Ashcraft lease, in Pike township, Coshocton County. Central Ohio was also heard from in an oil way. The American Natural Gas Company brought in a 75-barrel producer on the Veach lease, in Jackson township, Knox County, in an out-of-the-way point, that may mean the opening of another productive Berea sand shallow pool. The Wehrle people of Newark made an excellent find in the Big Lime at a wildcat well on the Noah Reed, in Newark township, Licking County, which made 83 barrels, and opens what looks like another pool above the average. The best that the old Northwestern Ohio field could show was 40 barrels found between Lima and Findlay, by Porter & Co. on the Haley lease, in Eagle township, Hancock County, while near Soencerville in Allen County, the Federal Oil Company got a 30-barrel well.

In Southwestern Indiana in the Wabash Valley Young & Co. drilled in a wildcat well on the Wilderman lease, in Center township, Gibson County, for 60 barrels. Illinois found nothing above a 10-barrel pumper for the week.

A nice increase is noticeable in the number of completions for the week in review in the fields east of the Mississippi River, and while there is little encouragement to drill under existing conditions, the average operator keeps moving along in a quiet way.

Shooting the Pure Oil Company's No. 1 Howard and Baker in Muskingum County, Ohio. After a shot of 90 quarts the well responded with a flow of 100 barrels.

The wells for the week were distributed among the various fields as follows:

Field—	Completions	Producers	Dry holes	Gas wells	Volume gas Cubic feet
New York ...	1	60	..	..	.....
Pennsylvania .	9	5	1	7	19.000,000
West Virginia.	25	81	5	11	25,000,000
Kentucky	24	435	5	..	.....
Tennessee	1	500	..	..	.....
Central Ohio.	33	198	9	16	15,750,000
S'eastern Ohio	5	121	..	..	.....
N'west'n Ohio	16	161	5	1	250,000
Indiana	7	95	1	..	.....
Illinois	3	15	1	..	.....
Totals 124		1,671	27	35	65,000,000
Previous week 95		1,037	24	27	80,250,000
Difference .. 29		634	3	8	15,250,000

Victor Stevens of Wichita, Kansas, who has been associated with H. E. Anderson in geological work, has accepted a position with the Empire Companies at Bartlesville, Oklahoma.

Government Has Report On Smackover District

A report on the eastern part of the Smackover oil and gas field, Arkansas, by H. W. Bell, P. S. Haury and R. B. Kelly of the Federal Bureau of Mines, Department of the Interior, has just been published by the Arkansas State Bureau of Mines, Manufactures and Agriculture.

The Smackover field is at present the most important area in Arkansas from the viewpoint of drilling activity and production of oil. The first well was completed April 14, 1922, and on August 1, 1923, approximately 25,000,000 barrels of oil had been produced from about 1000 wells. From present information there are about 21,500 acres within the proved limits of the field. This report deals with the eastern part of the field, embracing about 14,700 acres or three-quarters of the entire field.

The report discusses the relation of oil, gas and water, the different producing horizons, drilling and production methods, and methods for repailr work to exclude water from wells. Accompanying the report is a map of the field which shows several interesting features such as the location and status of the wells, the location of edge water with respect to the structure, the encroachment of edge water, the status of the individual wells with regard to the production of oil and water, and the source of water. Underground contours have been drawn to represent the top of the pay zone below sea level. Two cross sections, which accompany the report, show the relative depths and positions of the oil, gas and water bearing formations. There are also two diagrams which show the mechanical set up for cementing off lower water sands under pressure by use of tubing.

The Bureau of Mines engineers have spent most of their time in studying the underground conditions in the Smackover oil field and they have discussed the water conditions in detail. Incorrect methods of development may be the means of allowing water to flood prematurely the productive strata and thereby shorten the life of the field. Some operators have made use of this information and by properly repairing certain wells have increased the daily production of oil. There is much need for a concerted repair campaign in the Smackover district.

Copies of the "preliminary report on the eastern part of the Smackover oil and gas field" may be obtained without cost by applying to the Arkansas State Bureau of Mines, Manufactures and Agriculture, Little Rock, Arkansas.

EASTERN STATES PIPE LINE TRAFFIC

Pittsburgh, Pa., Oct. 20.—Traffic in September through pipe line systems east of the Mississippi River, as compared to the corresponding month last year, was as follows:

	Runs from Wells		Other Receipts		Regular and Other Deliveries		—Gross Stocks—	
	1923	1922	1923	1922	1923	1922	1923	1922
Buckeye Pipe Line C...	406,754	401,105	1,060,834	2,437,013	1,316,200	2,931,924	4,720,103	6,063,697
Eureka Pipe Line Co....	368,673	419,776	418,615	931,609	718,044	1,430,637	1,934,234	1,925,196
National Transit Co....	188,713	229,632	654,514	1,169,002	956,148	1,305,188	1,197,344	1,155,483
S. W. Penn Pipe Line..	82,300	89,750	632,910	1,268,753	693,992	1,239,592	924,129	735,430
Indiana Pipe Line Co...	14,150	18,210	1,688,293	2,367,807	1,628,512	2,436,739	681,376	658,422
Cumberland Pipe L. Co.	386,752	356,482	162	160	392,373	374,504	732,?74	534,543
South'n Pipe Line Co...	.....	.....	188,653	771,116	206,857	723,261	959,768	981.298
Crescent Pipe Line Co..	.....	.....	78,735	158,343	73,332	164,524	78.603	84.750
Northern Pipe Line Co..	.....	.....	131,797	857,100	137,227	912,622	930,870	1,053,096
New York Transit Co...	15,261	14,558	25,319	652,227	359,940	611,371	1,739,880	2,370,896
Illinois Pipe Line Co...	514,355	565,284	89,976	289,199	429,136	778,835	2,514,418	2,635,261

British and Canadian Capital Behind Drilling on West Newfoundland Coast

Calgary, Alta., Oct. 29.—The latest wildcat venture in British North America is being undertaken by British and Canadian interests to develop commercial oil production in Newfoundland. This island colony is outside the Canadian jurisdiction. It has for many years past been the scene of intermittent drilling operations, chiefly on the west coast, but though a fairly promising production has been secured in a few wells, no commercial field has been developed.

The Newfoundland prospects are pretty well restricted to two areas, both on the west coast. The so-called Parson's Pond field, comprising approximately 200,000 acres of which 75,000 acres are leased to development interests, is made up of two smaller fields, one at Parson's Pond and the other, to the east, and south of White Bay. The second oil prospect comprises approximately 25,000 acres north of Hawk Bay.

Survey work is now being carried on by two organizations. The Bearns syndicate, headed by George E. Bearns of London, England, associated with C. A. Furu of London and D. H. Eaton of Toronto, Ont., controls the entire Hawk Bay prospect, and some 50,500 acres at Parsons Pond. The Sir Mortimer Davis syndicate of London, England, holds 6500 acres at Parson's Pond south of the Bearns territory, and an additional 12,800 acres south of White Bay. The preliminary work now being undertaken is to be followed by actual drilling operations in the spring. It is reported that the Reid Newfoundland Company, which holds considerable territory at Parsons Pond, will also do some drilling, but this organization has so far shown no signs of activity.

In Ontario the Mercer-Williams syndicate of Toronto has abandoned its wildcat venture near Ilderton, in Middlesex County, after drilling two dusters, and the outfit has been moved by the contractor to the new Plymouh-Warwick area in Lambton County, where it will be used for shallow drilling for the Canadian Dutch Oils, Ltd.

In Western Canada a slight revival of activity is indicated in the southern fields. In the Sweetgrass area the Canadian Oil and Refining Company (Rogers-Imperial) test on section 29-1-11w4 is drilling, and the Moodie-Dundas test on section 4-1-15w4, shut down at 1365 feet, is resuming work. This test has already encountered small showings of oil in two horizons, and a fair gas production.

Some new work is in prospect. The Sweetgrass Oil Company of Vancouver, B. C., which recently reported a large producer on section 4-34-2w in Montana will next spring test two structures in Southern Alberta. G. L. Avery and associates of Peoria, Ill., are planning one or more tests near Taber, Alta. One prospective location is the Avery tract of 6000 acres, five miles north of Taber, and the other is on the holdings of the Majestic Coal Company. The locations are being made by means of an oil-finding device invented by Mr. Avery.

In East-Central Alberta the Imperial Oil, Ltd., Grattan 2, section 14-45-8w4, held up by casing trouble at 1864 feet, is reported to have resumed drilling. British Petroleums, Ltd., No. 2, section 30-46-6w4, is cementing casing. General Oil and Development Company is moving in a rotary outfit for its test on section 25-46-7w4. At Pigeon Lake the Mutual Oil and Gas Company, section 14-47-27w4, has the 6-inch casing landed around 1100 feet and is again drilling.

Wildcat Near Puente Is Showing at 5050 Feet

Los Angeles, Calif., Oct. 27.—St. Helens Petroleum Company's Garnier 1 northeast of Puente, is showing some oil and gas with 4¾-inch set at 5050 feet, the oil string including 400 feet of screen pipe. The well is known as a "mystery" well and has its owners as well as other oil men guessing.

Around 100 cores have been taken while drilling. At times oil showed in the slush pit and when a core was taken the formation showed no oil. The hole is being slowly bailed now and some oil is coming from the hole. The bailing process is progressing very slowly purposely, as the owners would like to be extra careful. Therefore the bailer is run only a few times daily.

The well is being watched carefully by the oil fraternity and if a producer develops, leasing will grow active in that section.

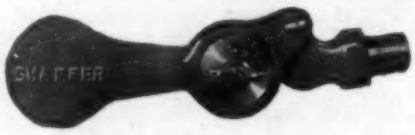
The New Age

THIS IS THE AGE OF ELECTRICITY AND IT IS ONLY NATURAL THE "GE" EQUIPMENT SHOULD BE FOUND IN THE LEAD IN THE OIL-FIELDS FOR ALL POWER PURPOSES.

Southwest General Electric Company

Dallas El Paso San Antonio Tulsa Houston Oklahoma City

AT LAST! *A Real Water Gauge* SHAFFER



(Patented)

Made with a cylindrical valve that can be turned to different seats, as required, under full steam.

This Gauge will not raise and leak on account of high steam pressure.

Boilers cost a lot of money. You can protect them from rust pits by using the Shaffer patented Water Gauge.

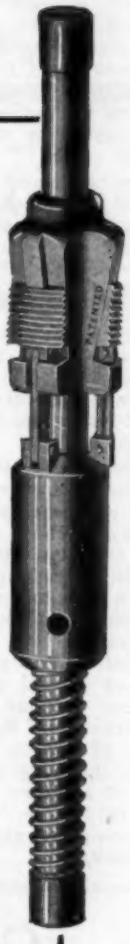
Your Supply House Has Them, or Write

J. E. SHAFFER COMPANY

Manufacturers and Distributors

TULSA, OKLA. 315 MID-CONTINENT BUILDING CEDAR 1052

"GUIBERSONS ON ALL STRINGS"



Lease Foreman I. C. Eakin, of the Sinclair organization at Shidler, has GUIBERSON Tubing Catchers on all strings of tubing under his jurisdiction.

Tubing has parted on two of these wells, in recent years, but not a joint of tubing was lost or injured, as the catchers stopped the falls within a few inches.

Ask ANY up-to-date producer if he believes in using tubing catchers. "On all strings"—that is becoming the universal policy.

The Guiberson is fully patented.

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

CALIFORNIA BRANCH: 1737 E. 7th St., Los Angeles

314 New Daniels Bldg.,	825 Mason Bldg.,	506 Trust Bldg.,
TULSA	HOUSTON	NEWARK, O.

Oil Industry Advertising

(Continued from page 15)

ship and control and sounds a further warning against the evils of government intervention. It deserves to be quoted in full:

"As you pay an extra nickel or dime 'for the state' when purchasing a filling station gasoline, you may ask, 'Why is gasoline taxed?' The elementary answer is, 'To raise public revenue.'

"A more interesting question is, 'Why does the state single out gasoline as a special source of taxation?' Not to discourage its use. Not because it is considered a 'luxury'—for half the gasoline consumed is used in industry and commerce.

"Gasoline is taxed because it is a convenient source of revenue. It is taxed because it is so cheap, both as a motive power and a commodity, that you buy regardless of this surcharge.

"Gasoline is the only product on which a direct sales tax is levied by the state of Louisiana. It is taxed one cent a gallon, or at the rate of about four per cent of your gasoline money. The revenue collected from you in Louisiana during the year 1922 amounted to $555,730.40.

"This one cent state tax alone is greater than the average company's margin of profit per gallon on its products. They are sold at a profit of less than one cent a gallon.

"In addition to the state sales tax, which you pay direct whenever you purchase gasoline, you pay a severance tax of three per cent, an inspection tax of one tenth of one per cent, a license tax, various special taxes, and a portion of your gasoline money also goes into the treasury of the United States—indirectly, of course, but nevertheless figuring in the price you pay for gasoline. In 10 and one half years (from January, 1912), the federal taxes paid by one company alone amounted to some $20,459,000.

"In spite of taxes, high labor, other increased manufacturing costs and tremendous demand, gasoline is still comparatively cheaper than ever—thanks to those business incentives that always accompany competitive effort and unhampered private ownership and management."

The eighth advertisement was entitled "Gasoline—where you want it, when you want it."

"The familiar gasoline pump stands on the busiest street in the city and at the lonliest cross-roads outpost with a ready supply of gasoline to serve your needs.

"* * * That is to be considered when the price of gasoline is discussed.

"It may be interesting to know that of the 9700 employes of one company, more than 2500 of them are engaged in the service of distribution, and more than $24,882,400 of capital is employed in that branch of the work."

Advertisement number nine dealt frankly with the popular idea that executives of oil companies are paid exorbitant salaries.

"Could you manage a business selling a million dollars' worth of merchandise for $4500 a year? That is all it costs per million dollars of sales for the executive management of a typical refining company in Louisiana.

"As a user of gasoline you are interested in this fact. For, as with every other large industry, there is always someone ready to tell you that executive salaries in the oil industry are high."

The advertisement goes on to say that if executives in the oil business worked for nothing, it would save the buyer of gasoline 35/1000 of a cent per gallon, or 35 cents on every 1000 gallons.

"As an average motorist consuming 400 gallons per year, you'd be more than seven years saving a dollar!"

Advertisement number 10 dealt with another popular prejudice, pointing out how competition of the keenest sort exists in the producing, refining and marketing divisions of the industry.

Number 11 was calculated to blast ideas entertained by the public as to monopolistic control of crude oil pipe lines. It shows how 62 per cent of the crude oil consumed in certain eastern refiners comes by tank ship. It tells the part tankers play in the transportation of Mid-Continent and California oil. It points out that "it is inevitable, in the case of any widely distributed commodity, that a large percentage of the ultimate cost to the consumer is represented by the expense of transportation and distribution. In the case of gasoline it may be interesting to you to know that from the time crude oil leaves the well until gasoline is placed in your car, about six cents out of the price you pay per gallon pays for transportation."

The twelfth and last of the series of advertisements is too pertinent to abridge. Read it in full:

"Last year 24,262 new wells were drilled, of which 5406 were dry holes so that 22 per cent of all effort and outlay was a total loss.

"Estimating the average depth of all wells completed last year at 2800 feet, the bare cost of drilling was $529,270,000, adding to this the expenses attached as lease rights, royalties, lifting cost, operating cost and overhead, we find that the cost of the 550,000,000 barrels of crude oil produced last year was $834,273,000. The producers realized for this oil $775,000,000, thus sustaining for the year a net loss of $59,273,000.

"It would be well for the public to have these figures in mind when the optimistic oil stock salesman talks about 'Streams' of Liquid Gold.'

"Those who succeed in the oil business would have been similarly successful in other lines because they possess energy, sagacity, practical and technical knowledge and patience."

Completions for Past Week in U. S. Fields

Oklahoma

	Depth	Initial Production Bbls.
Caddo County		
Red Bank Oil Co. A. Beaver 1, NEc NW 27-16-8e	3720	*
Carter County		
Magnolia Pet. Co. Lohman 4, C NW SE NW 25-2s-3w	2020	¶
Wirt Franklin Galiger 1, C NE SW NE 25-2s-3w	2008	1000
C. R. Smith Fee 6, C SW NW SW 26-2s-3w	2235	50
Texas Co. Jackson 4, SEc NE SE 3-2s-2w, broken sand and shale	2736-48	35
Creek County		
Laurel Oil Co. Knoll 2, SEc SW 22-16-8	3195	*
Red Bank Oil Co. A. Beaver 1, NEc NW 27-16-8e	3720	*
Larigan et al Scott 1, NWc SW NE SW 1-15-8e, abn rig.		—
Bristow Prod. Co. Cover 3, NEc SW 29-15-10	3240	200
Donnelly et al McIntosh 1, NWc NE 22-14-10e	3304	*
Sapulpa Refining Co. Mitchell 2, SWc SE NW 29-18-10	1820	30
Bu Vi Bar Givens 1, NWc SW 7-17-9	3095	*
Cotton County		
T. P. C. & O. Co.'s Isenhart 1, SWc NE 34-3s-9w	3190	*
Garfield County		
Pulaski Oil Co. Walter 1, SWc SE 34-22-4	3018	*
Grady County		
Grady County Oil Co. Johnson 1, SEc SW 23-7n-5w, abn lcn.		
J. A. Hull Nelson 1, SWc NE 28-6-8w	2549	*
Little Nick Oil Co. McCaughtry 1, S NW NW 35-5n-8w	1424	¶
Hagerling et al Indian 1, C NE NE 4-5-6w	2860	*
Kay County		
McCaskey & Wentz Mahoney 1, SEc 28-25n-1w, show of oil 2541-43 ft, water 3543-49 ft, plugged back to 2185, shot 2½ qts 2175-80 ft and 10 qts 2174-84, put on pump for 7 bbls.		
Comar Oil Co. Endicott 8-B, NEc SE 34-25-1w	2537	100
Endicott 8-B, NWc NE NW SW 25-35-1w	1860	112
Endicott 10, C E L NW NE SW 35-25-1w	1839	260
Besdor & Alcorn Riley 1, NWc 5-24-2w	3508	*
McIntosh County		
Nicholson Corp. J. Knowles 2, 18-11-14	1405	*
H. & H. Oil Co. S. Ireland 3, C N L SE NE SE 27-11-15	1106	4
S. Ireland 4, C NW NE SE 27-11-15	1103	3
Mary Rich 1, C S L SE SE NE 27-11-15	1060	¶
Kate Hawkins 1, SWc SW 34-11-15	1100	*
S. Hawkins 1, NEc NE 34-11-15	1150	*
Muskogee County		
Voegles et al G. Beams 5, C E L NW SW 19-14-16	1310	¶
Noble County		
Comar Oil Co. Ruzek 14, C E L SE 3-24-1	2582	90
Okmulgee County		
W. F. Crabtree S. Walker 1, NWc SE 23-14-15	1750	*
Parent Pet. Co. F. Scott (wo), NEc SW NE 15-13-14	1945	40
Brink Oil Co. R. Hawkins 1, NWc SE NW 4-11-12e	1663	35
Pawnee County		
Magnolia Pet. Co. Baker 3, NWc SW NW 16-20n-6e	3075	75
Musselman 7, SWc NW NW NE 8-18-7e	2474	*
Seminole County		
Ramsey et al Frantz Wewoka Townsite 2, SWc NE 19-8-8	1660	*
Magnolia Pet. Co. J. Parker 1, SEc NE SE NW 32-8-8 (Sand 3141-45, show oil and gas 3145-75 ft.)	3175	247
Producers & Refiners' Long 1, SEc SW NE 32-8-8	3168	300
Independent et al Long 1, NEc SW NE 32-8-8 (Sand 3134-54, shale 3154-86, broken sand 3186-90 ft.)	3134	230

"And they asked me how I did it, and I gave 'em the Scripture text,
'You keep your light so shining a little in front of the next!'
They copied all they could follow, but they couldn't copy my mind,
And I left 'em sweating and stealing, a year and a half behind."

RUDYARD KIPLING, in "The Mary Gloster"

THE spirit of the Pathfinder in the days when our continent was still largely a trackless domain, uncharted, unmeasured, unknown, is today duplicated in two forms of activity—in the drive and daring which leads men to drill for oil in previously untapped territory—and in the ceaseless study of the engineer for new methods, new mechanisms, new inventions.

Both are pioneers pushing on into the unknown for the public good.

Here at Bessemer we take an honest and permissible pride in our engineering path-finding which has meant so much to the development of the oil industry, such, for example, as our pioneering in the gasoline-from-gas process, a typical Bessemer achievement.

And the spirit of the pathfinder, whom Kipling quotes in the verse reprinted above—the spirit of leading rather than following and of refusing to be satisfied with past accomplishments—persists in the spirit of Bessemer today.

THE BESSEMER GAS ENGINE CO.
62 York Street Grove City, Pa.

BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Say you saw it in The Oil Weekly

Company, Well, Location—	Initial Production Bbls.	Depth
Stephens County		
Magnolia Petroleum Co. Funk 4, SEc NE NW 30-1-8	2287	350
Champlin & Winkler Britton 11, SWc NW SE SW 20-1s-8w	1956	¶
Magnolia Pet. Co. Barthley 1, C NW SW NE 20-1s-8w	2757	*
School 15, NWc NE NE 33-1s-8w	2117	¶
Tillman County		
Okla-Tex Oil Co. Riverbed 2, NEc SE SE NW 4-5-14	1645	100
Harmon et al Smith 1, NWc (wo) 36-1n-17w	1440	*
Tulsa County		
Thompson & Black Hewitt 1, SEc NE SW NW 2-18-13	2235	5
Houston et al Teague 1, NEc NW SE 33-18-13	1698	20
Wagoner County		
Wilder et al Bird 1, SWc NE NE 27-18-15	1715	*
Osage County		
A. L. Miller 1, C W L E½ NW 25-23-7	2463	40
Owen Osage 225, C N L S½ S½ NW 22-23-22	1836	*
253, SW NW SE 4-23-11	1720	*
Mutual Oil Co. 10, SW NW SW 33-24-8	657	10
Carter Oil Co. 6, NE SE NW 17-26-6	2838	40
Oliphant Peters SW NW 17-21-6	2992	485

Kansas

Company, Well, Location—	Initial Production Bbls.	Depth
Cowley County		
Parker & Reynolds Parrott 1, NWc SE SW 5-30-3e	*	3390
Waite Phillips Wilson 1, NEc of lot 22, 19-34-8e	*	3178
Elk County		
Orr Drilling Co. Baughman 1, SWc SE 27-29-10	10	1366
Blaxter & Mitchell's McIntyre 2, C NW SW 4-30-9	¶	1741
Greenwood County		
Brim et al Brown 1, SWc NW 27-22-10e	*	2380
Mid-Kansas Oil Co. Allen 4, SWc NE 23-23-10e	50	2100
J. B. Jones Hall 1, NEc NE SW 28-25-11e	*	2785
Harvey County		
Newton Oil Co. Witchenski 3, SWc NE 4-23-2	200	2435
Lyon County		
Beyers & Gordon's Shirley 1, NWc SW 22-21-11e	*	2526

Louisiana

Company, Well, Location—	Initial Production Bbls.	Depth
Bellevue Field—		
Olmstead et al Strange A-8, 23-19-11	40	293
Company, Well and Location—		
R. O. Roy & Co. Scanlan 19, 15-19-11	200	360
Scanlan 20, 15-19-11	50	391
Humble Oil & Ref. Co.'s Bliss & Weatherbee 22, 15-19-11	300	403
Total, 5 wells	590	
Caddo Field—		
Dixie Oil Company Robertshaw 53, 13-21-15	500	2823
Fortuna Oil Company Robertshaw 19, 23-21-15	100	1630
Total, 2 wells	600	
Monroe Gas Field—		
Zeigen et al Meunch 1, 28-19-5E	¶22	2213

Arkansas

Company, Well and Location—	Initial Production Bbls.	Depth
Smackover Field, Ouachita County—		
Arkansas Natural Gas Co. Snyder 1, 34-15-15	700	1990
Burch & Walker's La Grone 2, 25-15-17	200	2288
Patton 1, 31-15-16	250	2281
Houston Oil Co. Reynolds 1, 27-15-15	200	1945
Johnson Drilling Co. Wells 1, 25-15-17	100	2272
Lewis & Clark Berry 2, 24-15-17	100	2306
Smith & Nash McElroy 1, 29-15-16	*	2275
White et al Wells 1, 25-15-17	100	2308
Smackover Field, Union County—		
DeLucke et al Murphy 1, 8-16-15	*	2070
Gulf Ref. Co. McDonald 4, 1-16-16	¶25	2260
Livingston et al Roper 4, 3-16-15	150	1980
Nelson et al Childs 1, 17-16-16	*	2290
Phillips Pet. Co. Alphin 3, 11-16-16	500	2000
Standard Oil Co. Saxon B-1, 5-16-16	5	2261
The Texas Co. Hayes 3, 4-16-15	¶12	1977
Johnson 1, 3-16-15	120	1988
Total, 16 wells	¶37-2425	
El Dorado East Field, Union County—		
Big 4 Oil Co Cranston 2, 10-17-14	*	2214
Rogers 1, 17-18-17	*	2820
Vitex Oil Co. Allen 3, 18-17-14	*	2172

Texas

CORSICANA-POWELL FIELD

Company, Well, Location—	Initial Production Bbls.	Depth
Atlantic Oil Producing Co. W. S. Kellum 2	8,000	2970
Empire Gas & Fuel Co. W. B. Sweatman 1	1,080	2993
Gulf Production Co. O. C. Barron 2	6,250	2977
M. A. Crews 5	12,000	2980
Humble Oil & Ref. Co. M. A. Crews 1	13,450	2968
M. A. Crews 2	2,100	2979
M. A. Crews 3	7,500	2980
M. A. Crews 4	3,700	2980
R. D. Fleming 1-A	8,400	2985
R. D. Fleming 2-A	10,125	2981
R. D. Fleming 3-A	7,800	2976
W. C. Humphries 10	3,000	2963
G. C. Kent 12	1,500	2945
S. D. Ramey B-9	1,220	2953
S. D. Ramsey B-11	985	2927
Humphreys (Pure) Oil Co. W. J. McKie 48	175	2940
Garland H. Kent R. D. Fleming 3	11,000	2951
Magnolia-Texas I. T. Kent 12	230	2920
I. T. Kent 14	900	2920
McMan Oil & Gas Co. P. A. Chapman Broyles 10	1,300	2865
Roxana Petroleum Corp. W. J. McKie 5-A	275	2948
E. L. Smith Oil Co. Wheelock-Keith 2	14,500	2962
Texas Co. R. D. Flemming 2	12,000	2985
R. D. Flemming 3	1,220	2972
R. D. Flemming 4	1,250	2990
R. D. Flemming 8	6,000	2964
Tidal Oil Co. & Frank Buttram W. L. Phillips 4	12,000	2967
W. L. Phillips 8	4,500	2977
Witherspoon Oil Co. J. O. Burke 8	2,000	2880

IBEX-SHACKELFORD COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Ibex Oil Co. Wm. Poindexter 8	15	3655

DESDEMONA-GORMAN

Company, Well, Location—	Initial Production Bbls.	Depth
Post Duke Oil & Gas Co. Abernathy 2	¶4	3100
Andy Urban et al Neville 1	*	3435
Wolf & Miller Walker 1	30	3078

STEPHENS COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Haile-Knight et al E. H. Shipley 1-B	3500	3157
G. P. Jones 4	225	3160
Lacey et al Lee 1	10	1640
Republic Production Co. G. P. Jones 3	670	3876

BURKBURNETT

Company, Well, Location—	Initial Production Bbls.	Depth
Pigg & Murchison Foster & Allen 1	†	1850
Magnolia Petroleum Co. Hugh Reilly 91	5	1629
John O'Neil Saunders Estate 2	200	1834

ELECTRA

Company, Well, Location—	Initial Production Bbls.	Depth
Brewer et al L. P. Douglas 1	*	1115
Knight & Hines A. F. Fasset 1	*	1960
Texhoma Oil & Refining Co. S. B. Burnett 3	25	1595

YOUNG COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Mutual Oil Co. H. T. Glidewell 2	35	1965

ARCHER COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Alfalfa Petroleum Co. Herron 1	*	1002
Burns & Maxon J. E. Parrish 1	30	1586
Chenault & Lea L. F. Wilson 3-D	140	1589
J. E. Dale et al H. Wilmut 4	75	1600
Featherstone et al L. F. Wilson 2-B	*	1625
Oil Investment Co. J. E. Parrish 1-B	25	1582
Roberts & Hill J. H. Parrish 4	115	1577
The Texas Co. Carter Bros. 6	170	1585
Carter Bros. 7	150	1589
Underwood Drilling Co. H. Wilmut 1	25	1590

GULF COAST COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Spindle Top—		
Baker Oil Co. Trembley 9	*	1050
Goose Creek—		
Humble Oil & Ref. Co. Simms-Smith 45, wo	200	2800
Hull—		
Humble Oil & Ref. Co. Taylor 5	1500	2072
Republic Prod. Co. Dolbear 6 wo	3000	2900
Higgins O. & F. Co. Taylor 2, wo	1500	3210
Monarch Oil & Ref. Co. Miller 2	*	3745
Hull Oil & Ref Co.'s Lynch 1	*	3350
Orange—		
Prownie-Babbette Oil Co. McLean 1, wo	200	3575
Humble Oil & Ref. Co.'s Winfree 8, wo	400	4260
Rycade Oil Corp. State 2-C	1500	3900
L. J. Tillery Oil Co. State 1, wo	1800	3965

California

SANTA FE SPRINGS

Company, Well, Location—	Initial Production Bbls.	Depth
Union Oil Co.'s Alexander 4	2000	4700
Oscar Howard Bell 3	600	4675

LONG BEACH

Company, Well, Location—	Initial Production Bbls.	Depth
Geo. F. Getty McLachlin 9	1200	4627
Whitson Winger et al Fullerton 1	750	4453
Crescent Oil Co. No. 1	500	4800
Apex Pet. Corp. Morris 1-A	5500	4651
Marine Oil Corp. No. 10	600	4533
Henderson Pet. Corp. Wiltz 1	1500	4675
Dabney Oil Synd. Nakamura 21	3000	5280
General Pet. Clock 3	2500	4919

HUNTINGTON BEACH

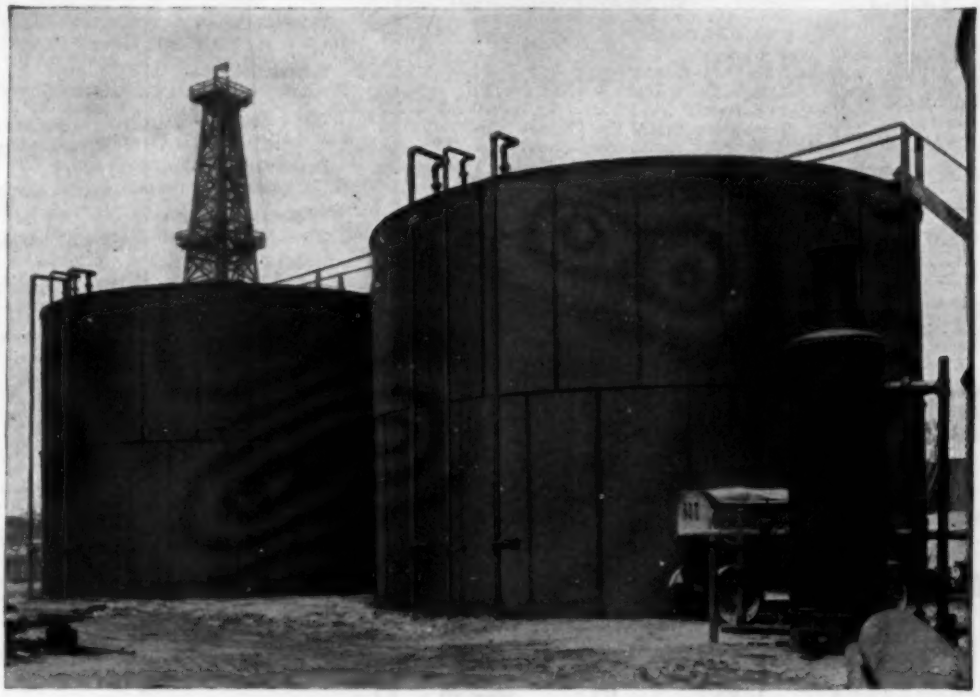
Company, Well, Location—	Initial Production Bbls.	Depth
Pan American No. 5	1500	3770
Pacific Pet. Co. No. 10	1200	3557

TORRANCE

Company, Well, Location—	Initial Production Bbls.	Depth
Selby & Root No. 1	1200	3750
General Pet. Corson 2	65	3400

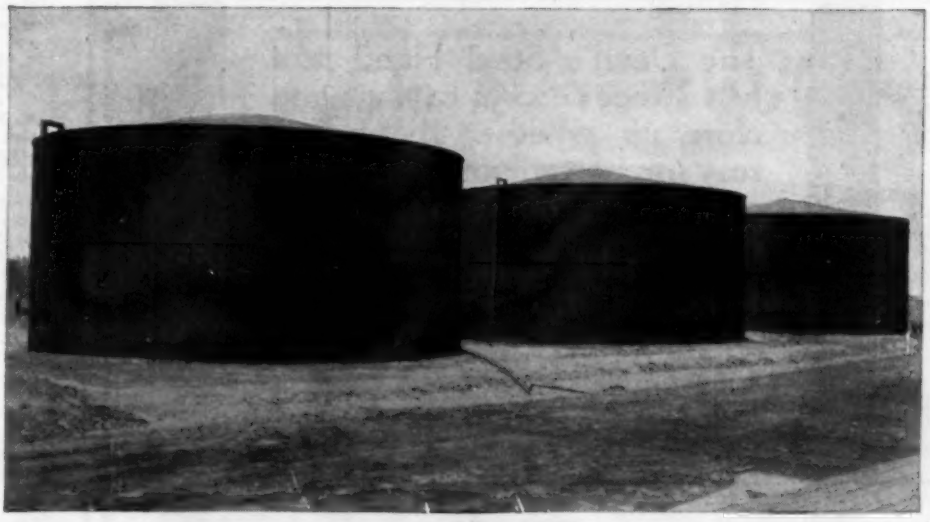
Butler Bolted Tanks

"At Your Service"



UP TO 10,000 BARREL CAPACITY ERECTED AT YOUR COMMAND

Picture above shows two Butler 5,000 barrel Bolted Tanks erected at Santa Fe Springs, Calif., for The Jameson Petroleum Corporation.



BUTLER BOLTED TANKS are the recognized standard of leading Oil Companies throughout the country. Equipped with Butler Regulator, they are absolutely vapor-proof and will retain original gravity. Producers find them reliable and trustworthy in service and durability, because of their superior construction.

Write for descriptive literature and prices on your requirements. Butler Bolted Tanks and Regulators are sold and installed by

May Tank & Sup. Co., Casper, Wyoming, and branches.

Peerless Steel Co., Ardmore, Okla. and branches.

Butler Manufacturing Co.

Minneapolis Kansas City Los Angeles

M. & V. Tank Co., Wichita Falls, Texas, and branches.

Standard Tank & Steel Works, Ranger, Texas and branches.

Eastern States

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
Greene County—		
Carnegie Nat. Gas Co. Wm. Lantz 2	¶3½	....
H. Jennings 1	*	....
Owens Oil & Gas Co. Phil Gary 1	¶2½	....
People's Nat. Gas Co. McClovis 1	¶½	....
Charles Sutton & Co. L. Smith 1	¶3½	....
McCracken & Fletcher J. Mundell 1	¶3	....
Philadelphia Oil Co. P. Hoskinson 2	¶3	....
Phipps Drilling Co. Bradley 2	¶3	....
Allegheny County—		
Englesfield & Co. Mary Tinker 1	5	....

NEW YORK

Bolivar Field—		
Jennings & Fraire Jennings 1	60	....

WEST VIRGINIA

Company, Well, Location—	Initial Production bbls.	Depth
Gilmer County—		
Hope Cons. & Ref. Co. I. N. Hardman 1	¶2½	....
Philadelphia Oil Co. Joab Crites 1	¶2	....
J. E. Woofter 1	¶½	....
F. H. Linger 2	¶2	....
Leroy Oil Co. Valeria Gerwif 1	¶2	....
Ohio Fuel Oil Co. J. M. Hays 3	*	1925
Marshall County—		
Manufacturers Light & Heat Co. N. E. Ernst 2	5	....
Deem Development Co. Thomas Markey 2	15	....
U. S. Stamping Co. J. V. Markey 1	10	....
Harrison County—		
Hope Nat. Gas Co. N. E. Mitchell 1	4	....
Bridgeport Oil & Gas Co. Fee 1	¶3	....
Reserve Nat. Gas Co. Sommerville 1	¶4	....
Calhoun County—		
South Penn Oil Co. M. S. Gehrke 1	10	....
Morris-Cain Oil Co. Mary Jarvis 1	*	....
Ritchie County—		
Mellon Bros. A. J. Null 3	¶2	....
Manassa Oil Co. A. B. Smith 1	5	....
Tyler County—		
Samuels & Gale Thistle Heirs 7	5	....
Wetzel County—		
McGuffey Oil & Gas Co. McGuffey 1	25	....
Wood County—		
Pat McDonague S. H. Allman 1	3	....
Roane County—		
G. L. Cabot J. B. Stone 1	¶3	....
Pleasants County—		
Horney Oil Co. Marie Ryan 1	¶2	....
Doddridge County—		
Columbia Carbon Co. Mazwell 13	¶2	....
Lincoln County—		
Superior Gas Co. Walker Adkins 1	*	....
Braxton County—		
West Virginia Central Gas Co. Mel Tucker 1	*	....
Lewis County—		
Carnegie Nat. Gas Co. L. O. Fahey 1	*	....

SOUTHEASTERN OHIO

Muskingum County—		
Pure Oil Co. Luella Shaw 2	75	....
Coshocton County—		
Leonard Oil & Gas Co. W. Ashcraft 2	40	....
Noble County—		
Davis & Kemp J. McWilliams 9	2	....
J. McWilliams 10	2	....
Deitrick & Co. W. Armstrong 12	2	....

CENTRAL OHIO

Medina County—		
Brinker Bros. & Co. Buchanan 3	*	....
Logan Gas Co. W. Nilges 1	¶½	....
A. B. Weiss 1	*	....
Ohio Fuel Gas Co. Fred Todd 2	¶½	....
G. F. Moehler 1	*	....
A. F. Collins 2	¶½	....
Geo. Acker 2	¶1	....
Heckert 2	*	....
Hulse & Koontz A. Jenkins 1	5	....
Wayne County—		
Logan Gas Co. D. Finney 1	*	....
A. A. Fetzer 2	¶1	....
Klise-Eckstein Co. M. Cole 1	¶3	....
Central Ohio Gas Co. Jordan 1	¶1	....
Brinkerhoff & Co. F. Fike 1	15	....
Caskey & Peake B. Brady 1	¶1	....
Hocking County—		
Summitt Oil Co. Kennard 4	5	....
Logan Gas Co. Sarah Nixon 3	2	....
Lanes Oil & Gas Co. W. S. Lane 1	2	....
Sharren & Son L. Coe 4	¶1	....
Licking County—		
Wehrle & Co. Noah Reed 1	83	....
C. H. Petty 1	3	....
Knox County—		
American Nat. Gas Co. Veach 1	75	....
East Ohio Gas Co. G. Snavely 3	10	....
Jackson County—		
Ohio Fuel Co. A. Peters 1	¶¼	....
S. B. Tripp 2	¶¼	....
Athens County—		
Logan Gas Co. A. J. Russell 4	¶2	....
W. H. Dye 2	¶¼	....
Ashland County—		
Logan Gas Co. O. Vance 1	*	....
Lybarger 2	*	....
Perry County—		
Athey Oil Co. Melick Bros. 6, 7	*	....
Holmes County—		
Central Ohio Gas Co. Tschantz 1	¶½	....
Lorain County—		
East Ohio Gas Co. Schaffer 2	¶¼	....

NORTHWESTERN OHIO

Wood County—		
Dennis Bros. Bresler 2	¶¼	1290

THE DEVIL'S STEEL HAND

Patented 7-17-1923—Foreign Patents.

(Companion of The Devil's Pitchfork)

For Standard and Rotary Rig Fishing.

The Devil's Steel Hand will fish 2 feet deep in cavings and close up whether the points rest on bottom or the center mandril sets on the object.

Furnished with wash down attachment for Rotary work.

These tools will clean the cavings out down to a broken bit or under reamer lug and then get the bit or lug.

PRICES

5 3/16	6	8
265.00	285.00	310.00
10	**12**	**15**
350.00	430.00	490.00

Brown Welding & Machine Co.

Breckenridge, Texas

Company, Well, Location—	Initial Production Bbls.	Depth
Ohio Oil Co. Loose-Walbridge 1 ...	*	1500
Five Points Oil Co M. Bruse 4 ...	20	1303
Hancock County—		
Porter & Co. J. H. Haley 15.....	40	1313
A. J. Poole Est. Kuhlman 10.....	*	1400
Allen County—		
Federal Oil Co. Lucius 2	20	1313
F. Etzkorn 2	76	1323
Ohio Oil Co. Adam Louth 4	12	1330
Seneca County—		
Sun Co. W. Burns 6	*	....
D. R. McCray T. Toombs 6	*	1732
Meadowbrooke Oil & Gas Co. Boes 1	*	2103
Van Wert County—		
Wheeler Oil Co. R. Evans 1	20	1302
Paulding County—		
Putnam County O. & R. Patterson 1	10	....
Auglaize County—		
Loeber & Werk Daniels 1	7	....
Ottawa County—		
T. F. Lewis & Co. C. Blausey 2 ...	4	1320
Lucas County—		
Farnsworth & Co. Farnsworth 1 ...	*	1408
INDIANA		
Jay County—		
Willson Oil Co. A. Hutzler 1	*	....
Manor-Stewart-Jones Co. Davis Bros. 10	*	....
General Oil Prod. Corp. Jeffries 2 ..	5	....
Adams County—		
Aspy Oil Co. J. L. Aspy 1.....	10	....
B. E. Aspy 1	10	....
Gibson County—		
Young & Co. Wildermann 1	60	1464
Grant County—		
Nickelson & Co. Hilderman 2	5	1198
ILLINOIS		
Lawrence County—		
Big Four Oil & Gas Co. Seed 18..	10	1357
J. D. Toomey L. V. Miller 1	5	900
Jackson County—		
Mid-Egypt Oil & Gas Co. McBride 1	*	....
KENTUCKY		
Allen County—		
Hickory Hill Oil Co. Pearson 3....	*	530
White Plains Oil Co. Frost 4.....	*	429
Buchanan 16	4	332
R. E. Wilson Wilson 3	10	312
J. P. Hall & Co. Irwin 13	5	290
Pickett & Payne T. Bean 2	*	279
Turner & English W. Motley 5 ...	3	....
Warren County—		
Phillips & Co. Bryant 1	3	517
Farmers Oil & Gas Co. Hill 1 ...	*	1710
Ohio Fuel Oil Co. W. A. Gott 13...	2	1008
Garrett 4	12	1196
Kelly-Miller 2	6	1223
M. C. Mullen Colburn 5	12	1096
Owensboro District—		
Book & McDonough Johnson 2	1	500
C. E. Daugherty & Co. V. Miller 1 .	10	500
Damron Bros. Miller 2	15	717
Leeper Oil Co. Howe 1	3	714
Cumberland County—		
Morris Petroleum Co. Huddleston 5	100	631
Pederson & Bently K. Crawford 2 ..	150	635
Hopkins County—		
Cooper Flash Oil Co. Hollman 4.	25	....
Hollman 5	57	560
Barren County—		
Norris Bros. & Co. Berry 5	13	485
Bryner Oil Co. Taylor 3	4	443
Hardin County—		
Smith & Co. Russell 2	*	300
TENNESSEE		
Pickett County—		
Oklahoma Parties Northwest part county	500	1200

STANDARD
AND EXTRA HEAVY CAST IRON
PIPE FITTINGS

Flanged and threaded 125 to 250 lbs. working pressure for use in refineries, and for pipe lines with pressures from five hundred to eight hundred pounds per square inch.

"UNITED"

Products have fully demonstrated their ability to withstand any usage within the pressure limits for which they are designed.

We manufacture pipe fittings of all kinds and will be glad to quote you on your requirements.

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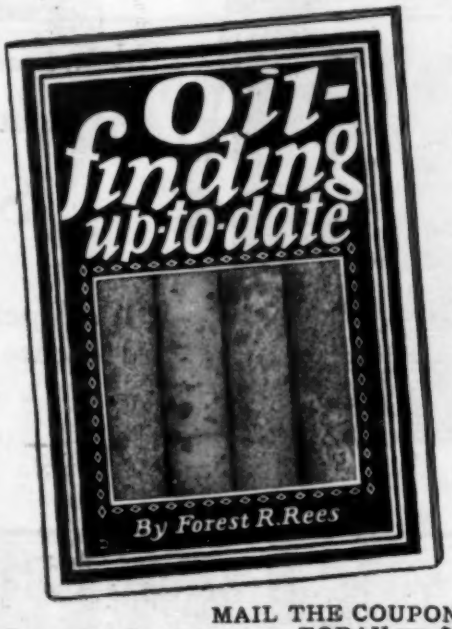
UNITED IRON WORKS, Inc.

TULSA KANSAS CITY, MO. DALLAS

Get This New Booklet!

OIL GEOLOGY and the DIAMOND CORE DRILL



In this booklet, Mr. Rees, Oil Geologist at Tulsa, explains in simple language the origin of oil bearing formations and why surface appearances or well indications are sometimes deceptive.

He shows how the diamond drill, removing a solid core of all rocks penetrated, enables the geologist to plot structure accurately and to say definitely "The Oil Is Here."

Illustrated with numerous sketches and photograhps.

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Send me free your booklet "Oil-Finding Up-To-Date"

Name.....

Firm.....

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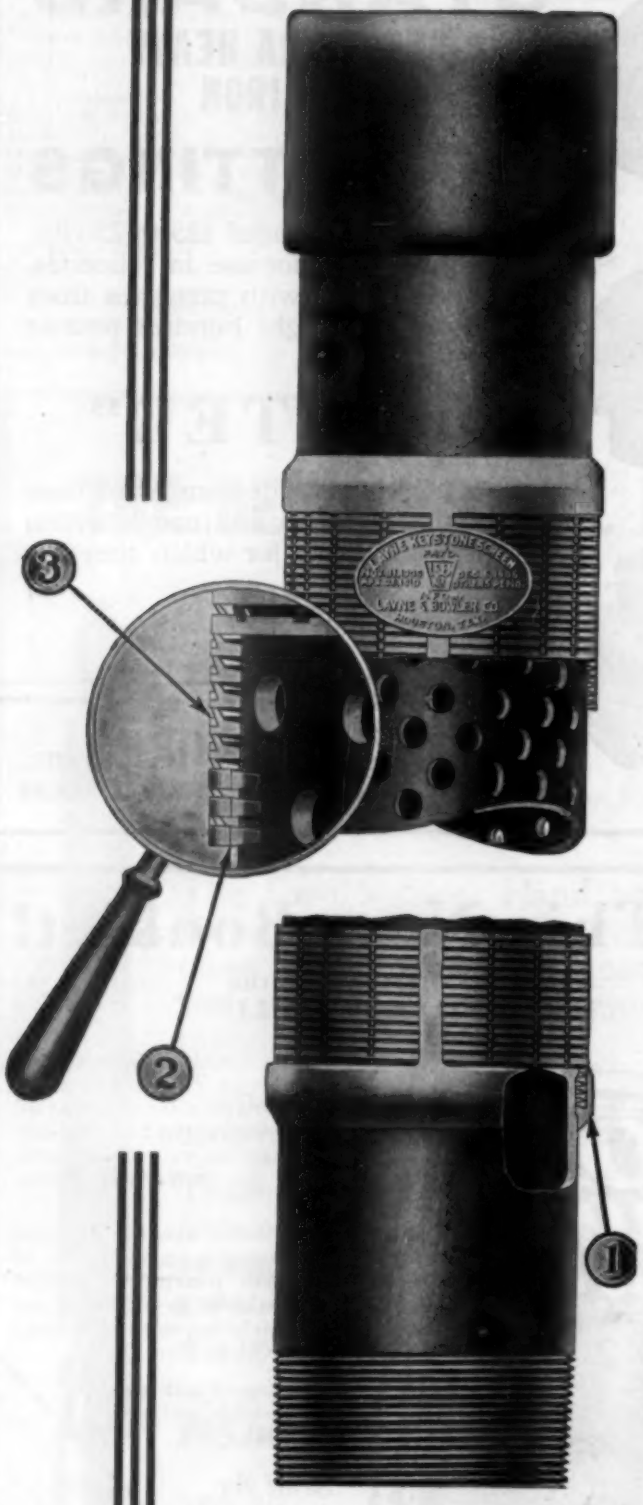


Remember these 3-points —when buying a

STRAINER

1. The pipe should be recessed—the wire wrapped in recess and sweated on the pipe, forming a solid collar.
2. Wire should be Keystone, and should be accurately wound.
3. Wire should be accurately spaced and kept spaced (this is most successfully accomplished by the means of lugs punched on wire).

You will find these THREE Points emphasized in every

THE LAYNE

Patent Keystone Wire-Wrapped

STRAINER

It's dependability has been proven by 15 years of giving satisfactory service

Wire—Write—Phone us your needs.

THE LAYNE & BOWLER COMPANY

HOUSTON, TEXAS FACTORIES MEMPHIS, TENNESSEE

Say you saw it in The Oil Weekly

Permits Granted and Locations for New Wells
(Arkansas—Louisiana—Texas)

ARKANSAS

Hempstead County—Hope-Columbus Oil Co.'s King 2, 24-11-25.

Ouachita County—Arkansas Nat. Gas Co.'s Snyder 4, 34-15-15, NEc SE¼ SW¼. Burch & Walker's Fee 1, 30-15-16, NWc NW¼ SW¼ SE¼. El Dorado Union Oil Co.'s Shirley 1, 30-15-16, NEc NW¼ SE¼. Forrest Oil Co.'s Mullen 10, 27-15-16, 200 ft S and E of NWc. Gulf Ref. Co.'s Patton 1, 32-15-16, 160 ft N and 150 ft W of SEc NW¼ SW¼. Hunt et al's Solmson 1, 30-15-16, SEc N½ NE¼ SE¼. Smith. Ref. Co.'s Myar 1, 30-15-16, 150 ft N and E of SWc SE¼ SE¼; McRae 2, 30-15-16, NWc SE¼ SW¼. Snowden & McSweeney's Taylor 2, 29-15-16, SWc SW¼ NE¼.

Union County—Arkansas Pipe Line & Navigation Co.'s Harrell 4, 17-16-15, NEc SW¼ NW¼. Harrell Trust's Teele 1, 11-19-15, SEc SW¼ SW¼. Humble O. & R. Co.'s Saxon 2, 32-15-16. Smitherman & McDonald's Saxon A-3, 32-15-16, 150 ft S and 200 ft W of NEc SE¼ SW¼.

LOUISIANA

Bienville Parish—Ohio Oil Co.'s Bodcaw 1, 19-16n-6w 330 ft W and 330 ft N of SE cor of sec.

Bossier Parish—Olmstead, et al's Strange 6, 23-19n-11w 400 ft E and 900 ft N of SWc of sec; Strange 7, 23-19n-11w 650 ft E and 900 ft N of SWc; Strange A-8, 23-19n-11w 550 ft E and 520 ft N of SWc; Strange A-9, 23-19n-11w 400 ft N and 650 ft E of SWc; Strange A-10 23-19n-11w 400 ft N and 400 ft E of SWc. R. O. Roy's Scanland 18, 15-19n-11w 100 ft E and 476 ft S of NWc SW¼ of NE¼; Scanland 19, 15-19n-11w 100 ft E and 852 ft S of NWc SW¼ NE¼; Scanland 20, 15-19n-11w, 100 ft W and 656 ft S of NEc SE¼ of NE¼. Standard Oil Co.'s Bliss & Wetherbee 9, 10-19n-11w, 100 ft N and 425 ft E of SWc NW¼ of SE¼. Bliss & Wetherbee 10, 10-19n-11w, 100 ft N and 100 ft E of SWc NW¼ of SE¼.

Calcasieu Parish—Texas Company's Gray 23, 33-10s-12w 860 ft W and 310 ft N of SEc.

Ouachita Parish—Peerless Carbon Co.'s Fee 2, 28-19n-5e, 1020 ft W and 1620 ft S of NEc of sec.

Union Parish—Davidson & Palmer's Frost Johnson 1, 18-23n-1e, 176 ft W and 176 ft N of SEc NE¼ of SW¼.

TEXAS

Archer County—P. F. Gwynn et al's J. H. Carter 4, Amer Trib sur 473 ft N No. 3. Ferguson, Hawkins & Hester's Carter 2, Amer Trib sur 150 ft to N and E lines. Parrish Farom Oil Co.'s Geo. Parrish et al 1 Amer Trib sur 150 ft to N and W lines. J. E. Dale et al's Wilmot 7, S. P. Ry sur 300 ft N No. 6. Barkley & Meadows' L. F. Wilson 1, Amer Trib sur 150 ft to N and W lines. J. V. Henly's L. F. Wilson D-4, Geraldine sur 337 ft E No 2. Texas Co.'s Carter Bros 8, M. C. S. L. 450 ft to N and W lines. Ray, Massie & Featherstone's L. F. Wilson 3, S. P. Ry sur 357 ft E No. 4, 357 ft E No. 3. Shamrock Oil Co.'s J. T. Richardson 3, South Anderson sur 720 ft to N and 150 ft to W line. Oil Investment Co.'s A. Parish 4-B, S. P. Ry sur; 2-B, 3-B. Shaw & Rathke's W. P. Ferguson 12, S. P. Ry sur 50 ft S No. 4. Sunshine State Oil & Rerg. Co.'s Carter Bros. 10, M. C. S. L. 300 ft N No. 2.

Atascosa County—Helvetia Oil Co.'s J. Weimers 2, Duck sur No. 334 150 ft to N and 2000 ft to E line. H. L. Hamilton's S. R. Hughes 6, Jno Sharpe sur 925 ft to E and 1380 ft to S line.

Callahan County—American Natl. Pet. Co.'s M. Hughes 5A, D. & D. Asy sur 150 ft to N and W lines. Mexia-Richland Oil Synd.'s W. R. Ramsey 1, T. E & L. Ry sur 660 ft to W. and 150 ft to S line. W. R. Andrews' L. Williams 3, T. E. & L. Ry sur 1000 ft to S and 540 ft to W line. Godley Oil & Gas Co.'s J. H. Ogle 1, T. E. & L. Ry sur 450 ft to S and E lines.

Coleman County — W. D. Cline's A. L. Pearce 1, Jno. Johnson sur 150 ft to E and 400 ft to S line.

Clay County—Knox Finley Dev. Co.'s Scott, Ramsdale & Lay 2, G. C. & S. F. Ry sur 150 ft to S and E lines.

Carson County—Texas Co.'s S. B. Burnett Est. 3, I. & G. N. Ry sur 325 ft to W and 1747 ft to S line.

Eastland County—Texas Dev. Co.'s Mrs. B. C. Lewis 1, H. & T. C. Ry sur 250 ft to E and 330 ft to N line. Stephens & Trunick's J. Blackwell 1, M. C. S. L. 150 ft to E and 460 ft to S line.

Falls County—Deer Creek Oil Co.'s H. B. Stallworth 1, Jno. M. Graham sur no location.

Fort Bend County — Mutual Oil Co.'s W. W. Weems 1, H. Shropshire sur 130 ft to N and 110 ft to E line.

Grayson County — Zee-Tex Synd.'s G. W. Cannon 1, A. H. Martin sur 100 ft to N and 357 ft to W line; 2, 50 ft S No. 1.

Jack County—Isbell, Smith & Evans' M. L. Ellis 3, J. B. Irvine sur 150 ft to N and 752 ft to E line.

Jefferson County—Houston Oil Co.'s S. W. Pipkin 7, W. McFadden sur 1270 ft to W and 240 ft to N line.

Liberty County—Gulf Prod. Co.'s J. D. Harrison 5, J. DeVore sur 150 ft to N and 50 ft to W line.

McCulloch County—E. J. Rassmusen's W. Jordan 1, Froelich sur No. 750 900 ft to N and W lines.

Montgomery County—El Saline Pet. Co.'s Jno. I. Outlaw 1, T. & N. O. Ry sur 700 ft to N and 1000 to E line.

Navarro County—Atlantic Oil Prod. Co.'s B. F. Irvine 7, J. Taylor sur 1070 ft to N and 150 ft to E line; 3, 290 ft E No. 4; 5, 310 ft S No. 3; W. S. Kellum 8, J. Harris sur 150 ft to W and 550 ft to S line. Western Oilfields Corp.'s R. H. Boyd 2, J. D. Matthews sur 150 ft to N and E lines; 4, 400 ft to S and W lines. Humble Oil & Ref. Co.'s M. A. Crews 6, Jno. Harris sur 319 ft SW No. 4; 7, 319 ft SW No. 6; 8, 319 ft SW No. 7. Western Oilfields Corp.'s R. H. Boyd 5, J. D. Matthews sur 150 ft to S and W lines. Humphreys Oil Co.'s W. J. McKie 59, Broyles & Buffington sur 600 ft NE No. 55; 60, 500 ft NE No. 40; 61, 600 ft NE No. 60; 62, 550 ft NE No. 61. Barkley & Meadows' I. N. Cerf 1, J. Smith sur 150 ft to S and E lines. E. E. Stewart's W. C. Humphries 1, Hrs. J. Smith sur 150 ft to S and E lines. Empire Gas & Fuel Co.'s W. B. Sweatman 3, Jno. Harris sur 150 ft to N and 450 ft to E line; 4, 300 ft W No. 3. Gulf Prod. Co.'s M. A. Crews et al 6, Jno Harris sur along SE line; 7, 8, and 9. Simms Oil Co.'s H. B. Boyd 2, Meador & Bragg sur 150 ft to N and E lines. Kirby Pet. Co.'s R. D. Fleming 2, Jno. Harris sur 150 ft to S and W lines. Skelly Oil Co.'s J. D. Carroll 2, J. D. Matthews sur 150 ft to S and E lines; 3, 300 ft N No. 2; 4, 300 ft N No. 3; 5, 150 ft to N and E lines; 6, 433 ft W No. 1; 7, 150 ft to S and W lines.

Palo Pinto County—F. H. Edmunds' A. Johnson Est 1, Jno. Burd sur 450 ft to S and E lines. R. M. Roddie's T. M. Carter 1, M. W. Luckey sur 250 ft to N and E lines.

Shackelford County—Graham & Hannan's J. T. Cockrell 3, Insane Asy sur 450 ft to W and 150 ft to S line. J. L. Sarver's R. A. Elliott 2, Blind Asy sur NW cor.

Stephens County—Texas & Pacific Coal & Oil Co.'s W. R. Ashmore 3, T. P. Ry sur 990 ft to S and 250 ft to W line. Hart Oil Corp.'s Mrs. J. B. Hart 6, T. P. Ry sur NW cor.

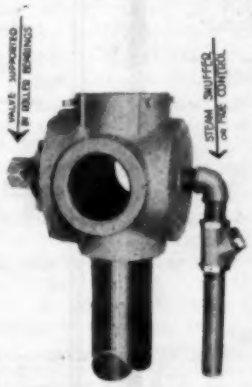
Wichita County—Pois & Kruger's W. T. Waggoner 7, H. T. & B. Ry sur 300 ft S No. 6. Texhoma Oil & Ref. Co.'s W. T. Waggoner 26-A, H. & T. C. Ry sur; 11-F, H. & T. C. Ry sur. T. A. Norwood's H. Ford 1, D. Meyer sur 150 ft to N and W lines. A. T. Wolfe's J. A. Kemp 14, W. V. F. L. 300 ft SW No. 8 Barkley & Meadows' Jno. Hirschi 24, W. D. Thorne sur 300 ft S No. 20. S. H. Walton, Jr.'s Burnett Est 1, H. T. & B. Ry sur 150 ft to S and E lines. Perkins & Cullum's F. A. Saunders 2, Specht Colo. sur 300 ft W No. 1. The Texas Co.'s W. T. Waggoner 285 Seale & Morris sur 50 ft W No. 265. Jno. O'Neil's F. A. Saunders 4, Specht Colo. 500 ft N No. 2.

Jim Wells County—Miller & United Packers Oil Co.'s Z. E. Garbett 1, Walde-Dribbrell sur 224 ft to N and W lines.

Webb County—Chico Pool Oil Co.'s L. Ochoa et al 2, Ojuelos sur 300 ft N No. 1.

Young County—C. W. Whitehead's E. S. Graham 1, Ben H. Hill 150 ft to N and 450 ft to E line.

The New and Improved
PALMER CONTROL HEAD



With built-in Steam Snuffer for extinguishing oil and gas fires

And heavy-duty ball bearings for eliminating valve freezing

For sale through supply houses

Manufactured by

PALMER SPECIALTY COMPANY

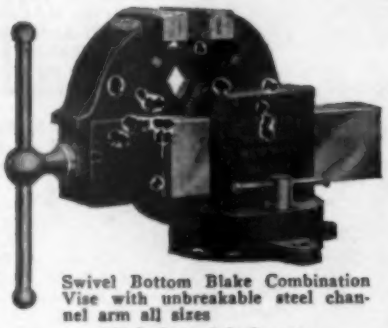
114-115 Tuloma Building
Tulsa, Oklahoma

Why You Need

Prentiss Combination Pipe Vises

Reason No. 5

Upset Head on Screw



Swivel Bottom Blake Combination Vise with unbreakable steel channel arm all sizes
1/8 inch to 6 inches to
1/8 inch to 8 inches
Also with grey iron and steel sliding bar in sizes from
1/8 inch to 1 inch to
1/8 inch to 4 inches.

Perhaps the strongest strain on a vise comes on the screw and head.

This is why we make this part of a Prentiss Combination Pipe Vise in one piece, upsetting the head on one end of the steel screw.

This leaves no weak spot—no cast union to break under ordinary strain—another feature which helps Prentiss Combination Pipe Vises give lifetime service.

SIX PRENTISS POINTS
Swivel Base—Above the Bench
Resistance to Blows, Pressure and Strain
Weld-firm Interchangeable Jaw Faces.
No-Hump Jaw.
Upset Head on Screw
Guaranteed.

The only vise with every improvement

PRENTISS VISE COMPANY
108-110 Lafayette St.
NEW YORK CITY

GUARANTEED

Sucker Rod Hooks

IF YOU'D like to try the advantages of a really SAFE sucker rod hook, we recommend the Stewart, made by us and sold by the Walter O'Bannon Company, 817 East First Street, Tulsa, Oklahoma.

Stewart Sucker Rod Hooks are guaranteed by the manufacturers and by the Walter O'Bannon Company to be not only free from defects, but to be satisfactory to the purchaser. The purchase price will be promptly and cheerfully refunded any dissatisfied customer.

Stewart Hooks do away with accident and annoyance common to the use of ordinary hooks. No load ever jumped out of a Stewart Sucker Rod Hook—or ever will.

The Stewart slips readily through rigging and past obstructions. It can't hang.

It is made oversize and overstrong, and it swivels on special, highly tempered bearings.

If your local dealer hasn't Stewart Sucker Rod Hooks, write O'Bannon for prices and illustrated literature. No obligation whatever.

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WILDCATS FROM ALL SECTIONS

Central West Texas Wildcats

COMPLETIONS

Company, Well and Location	Inital Production bbls.	Depth
Brown County—		
Canyon Oil & Gas Co. and T. B. Slick's Mrs. Ellsberry 2	*	2950
T. B. Slick & Phillips Pet. Co. Newton-Harris 2	20	2960
Palo Pinto County—		
Mutual Oil Co. Robinson 1.....	10	1501
Upham Gas Co. F. M. Watson 3..	*	3555

DRILLING REPORT

BROWN COUNTY—Carlton-Tippett et al's O. B. Fomby 1, junked hole, td 1315 ft. Joe Cullinan et al's G. W. Pickett 1, sd 1135 ft. Crabb, McNiel & Bryant's B. W. McDonough 2, lcn. Gillette et al's Prather 2, sd 1300 ft. Harris et al's Jack Smith 1, sd 1605 ft. Infield Petroleum Co.'s T. M. Windham 5, rigging up. Leonard et al's Prather 2, sd 2275 ft. Ben C. Madison's Jack Smith 1, sd 705 ft. McCamey et al's Armstrong 1, rig. Omaha Southern Oil Co.'s G. B. Gaines 2, sd 1690 ft. Pennant Oil & Gas Co.'s W. B. Strickland 1, sd 2605 ft. Price et al's Blair 2, sd 2910 ft. Scott & Anderson's W. R. Chambers 1, sd 2900 ft. Sindorf Bros.' G. B. Gaines 1, sd 2280 ft.

HOOD COUNTY—Hardy Sitton (was Iowa Bankers Oil Co.'s) I. A. Rylee 1, sd 570 ft. Burleson Oil Co.'s D. W. Campbell 1, sd 2800 ft.

PALO PINTO COUNTY — Bankhead & Wheeler's Bankhead 1, sd repairs 275 ft. Ed Costello's Costello 1, rigging up. S. C. Cunningham et al's B. M. Poer 1, showing oil 3785-90 ft, dr 3630 ft. Clark & Burch's Mrs. L. F. Conklin 1, sd for 5-in cas 3900 ft. Jack Dalton Oil Co.'s R. S. Dalton 2, sd 4025 ft; Dalton 5, sd for second shot, td 4060 ft. Danielson Trustee (S. E. J. Cox's) Arch Hemphill 1, sd 3755 ft. Gibson, Sinclair & Strong's J. T. Holt 1, sd 4260 ft. Jones et al's Jones 1, rigged up. Ligon & Sheppard's Carter 1, plugging to abn 3510 ft. S. W. Manning et al's R. Hitson 1, sd 3640 ft. Nelson Oil Co.'s Finch 2, sd 4105 ft. Pender Production Co.'s L. C. Slemmons 1, dr broken lime 3710 ft. Phillips & Graham's Caudill 1, sd 2350 ft. Republic Prod. Co.'s Stuart Bros. 1, sd 1615 ft. Simms Oil Co.'s Costello 1, dr 950 ft. Scott & McClure's River Bed 1, sd 3700 ft; River Bed 2, rigged up. H. L. Singleton et al's W. Holt 1, sd 1665 ft. Texas Pacific Coal & Oil Co.'s M. E. Robinson 1-DD, co 3580 ft; Stuart Bros. 144, sd for pipe line 1630 ft R. B. Thomas' Fee 1, dr 3545 ft. Youkan Oil & Gas Co.'s Seaman 1, sd 3965 ft. Zada Belle Oil Co.'s G. N. Weldon 1, sd 2575 ft.

BORDEN COUNTY—C. W. Jones Drilling Co.'s F. M. Long 2, pul cas to abn 3060 ft. Kesselman Development Co.'s A. J. Long 1, rigged up.

BREWSTER COUNTY — Arco Development Co.'s Kokernot 1, fsh tools 3765 ft. Brewster Oil Co.'s H. L. Kokernot 1, sd 2470 ft. Portland Oil Synd.'s State 1, sd 2480 ft. Nine Points Oil Co.'s Peralto & Finnell 1, sd 1570 ft. Marathon Oil Co.'s Nigger Creek-Cage 1, sd 2350 ft; Wilson 2, sd 4000 ft.

COKE COUNTY—Ace Oil Co.'s W. C. Locke 1, spd and sd. Mexia-Equitable Oil Co.'s W. J. H. Hodges 1, sd 2505 ft.

CONCHO COUNTY—Signal Oil Co.'s Sam Waring 1, dr 2750 ft. W. O. Schultz Oil Co.'s Schultz 1, sd 3225 ft. Dome Oil Co.'s Mrs. C. M. Hartgrove 1, lcn.

CRANE COUNTY — Texas-Mexia Drilling Co.'s W. M. Waddell 1, spd and sd.

CROCKETT COUNTY — Crockett Drilling Co.'s J. M. Shannon 1, dr 840 ft; Shannon 2, lcn; Robert Massey 1, sd 510 ft. Enders-Smith & Co.'s University 1, sd for cas 350 ft.

CULBERSON COUNTY — David Flood's McAlpine & Gresham 1, using diamond core drill, dr 3610 ft. J. D. Wesner's Mack Sayles 1, sd 3105 ft. T. W. Owens' Jones 2, dr 3190 ft. Consolidated Sulphur Co.'s Johnson 1, sd 115 ft. G. W. Gossert's Sayles 1, sd 460 ft.

DAWSON COUNTY — Lamesa Oil Co.'s John Burns 1, sd 2155 ft.

ECTOR COUNTY—Farmers Oil Co.'s Andy Newham 2, dr 1265 ft.

EL PASO COUNTY—Burns & Knight's Fee 1, sd 1495 ft; Fee 4, dr 1180 ft.

FISHER COUNTY—Pyron Oil Co.'s J. S. McCall 1, sd 2135 ft.

GLASSCOCK COUNTY — Cushing Ranch Drilling Assn.'s W. F. Cushing 1, sd after shot 4515 ft; W. H. Sparkman 1, sd 1950 ft. General Oil Co.'s L. S. McDowell 4, re-cementing cas 3685 ft. Associated Ref. & Prod. Co.'s C. I. Brunson 1, sd 2935 ft.

HUDSPETH COUNTY — Boole Oil Assn.'s Gardner et al 1, fsh 1405 ft. Hueco Basin Oil Co.'s University 1, sd 2535 ft.

HOWARD COUNTY—Big Springs Oil Co.'s Mable O. Quinn 1, sd 3640 ft.

JONES COUNTY—Anson Oil & Dev. Co.'s C. B. Brown 1, sd 1855 ft. C-H Oil & Development Co.'s J. A. Cullom 1, sd 3160 ft.

LOVING COUNTY — Ramsey Prod. Co.'s Russell 1, fsh cas 4485 ft; Russell 2, sd 815 ft.

MARTIN COUNTY—Cox Realization Co.'s Co.'s Walcott 1, sd 2065 ft.

MITCHELL COUNTY—California Co.'s E. Morrison 1, sd 3925 ft. Colorado-Texas Pet. Co.'s W. L. Foster 2, sd 2625 ft. Fensland Oil Co.'s W. H. Badgett 1, dr 2620 ft. R. H. Looney et al's L. C. LeSure 2, lcn. C. F. Kelsey et al's W. H. Badgett 1, showing oil, dr 3120 ft. Petroleum Operators Assn.'s E. Morrison 1, rig. Henry Riley et al's E. Morrison 1, running tubing to pump, td 3040 ft. S. A. Sloan et al's Sam Smart 2, spudding; J. H. O'Neil 1, showing oil, dr 3060 ft. Underwriters Prod. & Ref. Co.'s E. Morrison 5, showing oil, dr 3040 ft.

PECOS COUNTY — Trans-Pecos Oil Co.'s Helen L. Thomas 1, lcn; Bennett et al 1, gr cas 710 ft; Turney 1, dr 1340 ft. W. S. Troy et al's Johnson 1, sd 3520 ft. Southern States Lease & Prod. Co.'s J. M. Odem 1, sd 1305 ft. Oregon-Texas Oil Co.'s Turney 1, sd 3025 ft.

PRESIDIO COUNTY—Claude Byler's Toole Estate 1, spd and sd.

REAGAN COUNTY — Texon Oil & Land Co.'s University 3, fsh collapsed cas 2765 ft; University 4, dr 960 ft.

REEVES COUNTY—W. S. Troy et al's H. G. Hersheusen 1, sd 415 ft. Dixieland Oil Co.'s Oates 2, sd 4500 ft. Bell Reeves Oil Co.'s Findley et al 1, sd 1540 ft. El Paso Saragosa Oil Co.'s George Wirt 1, sd 540 ft. Los Pecos Oil Synd.'s Oates 2, sd 725 ft. Parker-Hancock Oil Co.'s Johnson 1, sd 1930 ft. Pecos Angeles Oil Co.'s Pecos Valley 1, sd 1405 ft. Willoughby Petroleum Co.'s W. D. Cowan 1, sd 610 ft. Rodenbaugh & O'Connell's W. D. Casey 1, sd 845 ft. Pico Petroleum Co.'s Johnson 1, sd 1930 ft. Hawkeye Pecos Oil Co.'s T. P. Land Co. 1, sd 825 ft. Texas Drilling & Dev. Co.'s Pecos Valley 1, sd 1105 ft. Tatum Lease Synd.'s Burchard 1, sd 155 ft.

RUNNELS COUNTY—Safety First Oil Co.'s Will Allen 1, ur cas 3815 ft. Russell Production Co.'s Russell 2, sd 2500 ft.

SCHLEICHER COUNTY — Paragon Oil Co.'s B. M. Boyd 1, sd at contract depth, td 3500 ft.

SCURRY COUNTY—The Loutex Corp.'s J. J. Moore 1, sd repairs 3565 ft. Camp Springs Oil & Gas Co.'s W. R. Quinn 1, sd for 8-in cas 2035 ft. Hermleigh Oil & Gas Co.'s J. W. Burris 1, sd 2965 ft. Stanton Oil & Gas Co.'s

Gulf Wildcat Test in Montague County Has Show in Sand Found at 2125 Feet

Wichita Falls, Texas, Oct. 29.—The wildcat test of the Gulf Production Company on the T. Benton lease, located in Montague County and several miles southeast of Nocona, is reported to have encountered a good showing of oil late last week in sand from 2125 to 2138 feet, while carrying water in the hole from water sand at 2095 feet. Preparations are being made to lower a string of eight and a quarter inch casing recently set at 2045 feet to shut off the water trouble and test out the oil pay. Gulf acquired a large block of leases surrounding this test early this year, based on favorable geological reports, and contemplate drilling below 3000 feet for lime pay, if a commercial producer is not obtained at a shallower depth.

In the west edge of Montague County, and several miles northwest of Stoneburg, the wildcat test of the Mascho Oil Company on the J. L. Howard farm, section 29, Limestone County School Lands, is showing for a gasser at 1590 feet. This test opens up a gas producing area in an entirely new section of the county, which is proven for shallow gas production in the northwest corner. The Howard test logged gas with water in sand at 1515-28 feet, and picked up the big pay at 1581-90 feet. A string of 10-inch casing set at 1506 feet is to be lowered, before the hole is bailed and the second gas pay tested out.

The showings made by these two wildcat tests during the past week is expected to partially stimulate interest in Montague County leases. The county as a whole experienced an active leasing campaign late last year, and until the middle of the past summer, but completion of failures in scattered parts of the county recently served to place a damper on operations.

Another effort for deep lime pay in Eastern Clay County on the Carl M. Worsham ranch is to be made by the Gulf Production Company, which brought in a wildcat producer last December good for 200 barrels of 42.3 gravity oil at 3394-3446 feet, as location has been made for a third test that will be drilled a short distance west of the discovery well. The discovery well is located in section 3, T. & N. O. railway survey, about six miles north of Bellevue. A second test, located 4000 feet to the northeast, proved dry after drilling to 3885 feet, and was abandoned last August. About two miles northwest of the Gulf discovery well, W. H. Dunning and associates' wildcat test on the K. N. Hapgood ranch was abandoned last week as a dry hole with total depth of 3900 feet. The failure of this test and Gulf's second test materially reduces the possibilities of the structure proving productive over a wide area.

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J. W. Riley 1, sd 3505 ft. C. C. Brandon's J. A. Kemp 1, lcn.

STERLING COUNTY—Co-Operative Lease & Development Co.'s Douthitt 1, fsh 1815 ft. Chicago Oil & Gas Co.'s B. C. Durham 1, sd 1365 ft. Fidelity Oil Co.'s C. R. Hull 1, sd 1215 ft. Concho River Drilling Assn.'s George McIntyre 1, sd 505 ft.

TAYLOR COUNTY — Abilene-Texas Oil Co.'s J. C. High 1, sd 2135 ft. Sanger Oil & Ref. Co.'s Hall 1, sd 2865 ft.

TERRELL COUNTY—Southwest Texas Oil & Gas Co.'s S. W. T. No. 1, sd 3400 ft. Pittsburg-Western Oil Co.'s Chas. Downey 1, sd 1260 ft.

TOM GREEN COUNTY—W. O. Kimmell et al's Jemeyson Bros 1, dr 440 ft; Lee Wright 1, dr 290 ft. Ranger Investment & Dev. Co.'s Harris 1, dr 3120 ft.

VAL VERDE COUNTY—East Del Rio Oil Co.'s E. F. Russell 1, sd 1600 ft. G. Cook et al's Bedell Moore Estate 1, 1255 ft. Independent Operators' W. E. & W. F. Whitehead 1, dr 1830 ft. Re-Clamation Oil Prod. Co.'s J. B. Moore 1, sd 2630 ft.

WARD COUNTY—Arthur Pitts Oil Co.'s Soda Lake 1, sd 2205 ft; Valley 1, sd 1685 ft; River 1, sd 4675 ft. Cook & O'Brien's G. W. O'Brien 1, sd 1175 ft. Trans-Pecos Oil Co.'s Longnecker 1, sd 1765 ft.

North Texas Wildcats

COMPLETION

Company, Well and Location	Initial Production bbls.	Depth
Clay County—		
Dunning Oil Co. K. N. Hapgood 1..	*	3900

DRILLING RTPORT

(Note this report does not include tests that have been shut down indefinitely.

BAYLOR COUNTY—Bob Waggoner's W. H. Portwood 1, dr 1440 ft. Wurtz et al's Porter Ranch 1, sd 1010 ft.

CLAY COUNTY—J. T. Cumley et al's J. D. Stine 1, dk. E. C. D'Yarmett's Carpenter 1, sd 1715 ft. Gulf Production Co.'s H. Boddy 1, dr 2340 ft. Knox & Finley Development Co.'s Scott 1, cas trouble 1150 ft. Lone Star Gas Co.'s Edrington 7, dr 2300 ft. Nebraska Oil & Gas Co.'s W. H. Myers 1, sd 3280 ft. Nix-Moore Oil Co.'s F. M. Hull 1, sd 1200 ft. Ross & Webb's J. H. Stine 1, dr 1450 ft.

COOKE COUNTY—Big Indian Oil Co.'s B. W. Davis 1, dr 2550 ft. Red River Drilling Co.'s Whaley-Jones 1, fsh 1200 ft.

DENTON COUNTY—Hill Crest Oil & Development Co.'s J. H. Rayzor 1, sd 1350 ft.

GRAYSON COUNTY—Zee Tex Oil & Development Co.'s G. W. Cannon 2, sd 2875 ft; Griffin 1, sd 2200 ft.

HARDEMAN COUNTY—Frizell Oil Co.'s M. S. Winbury 1, sd 3040 ft.

JACK COUNTY—Duncan et al's M. A. Woodward 1, ur 725 ft.

KING COUNTY—Banks Oil Co.'s J. R. Hailey 1, std 1030 ft.

KNOX COUNTY—White Oil Corp.'s Ward Ranch 1, sd 2800 ft.

MONTAGUE COUNTY—Amarada Oil Co.'s R. D. Beasley 1, dr 2600 ft Bowie Chief Oil Co. et al's C. H. Boedeker 1, sd 2725 ft. Gulf Production Co.'s T. Benton 1, dr 2090 ft. Mascho Oil Co.'s J. L. Howard 1, ur 1590 ft, show of gas.: J. A. Sheppard's L. Crenshaw 1-A, ur 1800 ft; L. Crenshaw 1-B, sd 1225 ft. Spencer & D'Yarmett's Wilson 1, sd 1080 ft. The Texas Co.'s Gist 1-A, dr 870 ft.

THROCKMORTON COUNTY—Ashcraft et al's Polk Co. School Land 1, dr 500 ft. Monroe Production Co.'s R. S. Ray 1, dr 100 ft. J. H. Richardson et al's Reynolds Cattle Co. 1, sd 640 ft.

WILBARGER COUNTY—Byrne & Co.'s B. N. Cordor 1, sd 1960 ft. Herrington & Robinson's McCaleb 1, reset cas 1950 ft. Noble Oil Co.'s W. T. Waggoner 1, sd 900 ft. South Vernon Oil Co.'s W. H. Stephens 1, ur 1550 ft.

Texas Panhandle Wildcats

Note—The drilling report below does not show wells that are shut down indefinitely.)

CARSON COUNTY—Culberson Bros.' V. B. Armstrong 1, sd 175 ft. Gulf Production Co.'s

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Seamless Upset Rotary Drill Pipe

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CONTINENTAL SUPPLY CO.
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Pittsburgh, Pa.

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Franklin, Penna.

PUMPING EQUIPMENT

S. B. Burnett 3, dr 3140 ft. Humphreys Oil Co.'s J. M. Sandford 1, dr by tools, td 2535 ft. W. W. Silk et al's S. B. Burnett 3, lcn. The Texas Co.'s Mary C. Burnett 1, sd 40 ft; S. B. Burnett 2, ur 3060 ft; S. B. Burnett 3, sd 25 ft. Tipton, Stone et al's McConnell 1, dr 3028 ft.

ARMSTRONG COUNTY — Magnolia Petroleum Co.'s "J. A." Ranch 1, dr 1400 ft.

GRAY COUNTY—W. H. Holmes et al's J. S. Morse 1, sd 900 ft. The Texas Co.'s G. H. Saunders 1, ur 1550 ft.

HANSFORD COUNTY—A. G. Higgins et al's C. O. Hitch 1, sd 50 ft.

HEMPHILL COUNTY—Piney Oil Co.'s Hopkins 1, sd 2410 ft.

HUTCHINSON COUNTY—Coline Oil Co.'s R. Sandford 1, sd 3190 ft. Humphreys Oil Co.'s Johnson Bros. 1, rigging up, td 2588 ft. Montgomery Oil Co.'s Johnson Bros. 1, sd 1525 ft. Plains Oil Co.'s J. F. Weatherly 1, sd 3260 ft. Producers & Refiners Co.'s L. Bivens 1-B, dr 790 ft. Whittaker & Newbold's Johnson 1, dk.

POTTER COUNTY—Producers & Refiners Co.'s L. Bivens 1-A, dr 2000 ft; Bivens 2-A, sd 800 ft; Masterson 2, dr 2570 ft.

WHEELER COUNTY—Barker & Coffer's Hiltbrunner 1, lcn. Mid-Continent Oil Synd.'s Ember 1, lcn. Roy W. Schenck et al's C. C. George 1, sd 1985 ft. Skelly Oil Co.'s Davis Bros. 1, dr 2478 ft. H. S. Tyrell et al's F. E. Sheldon 1, fsh 975 ft. J. Whittington's Williams & Laycock 1, sr 2160 ft.

Coastal Wildcats

COMPLETION

Company, Well, Location—	Initial Production Bbls.	Depth
Austin County—		
Texas Co.'s Theilman 2	*	3570

DRILLING REPORT

DUVAL COUNTY — Abercrombie et al's Benavides 1, sd. Flornoy & Givens' Canales 1, dr. Humble Oil & Ref. Co.'s Singer 5, fsh. Mar-Tex Oil Co.'s Ridder 1, dr. Queen Oil Co.'s Dinn 1, dr.

HARRIS COUNTY — Texas Exploration Co.'s Warren 13, sd; Warren 15, dr 250 ft.

JACKSON COUNTY—Vanderbilt Oil Co.'s Seliner 1, dr for water.

MATAGORDA COUNTY — Rycade Oil Corp.'s Myers 1, waiting for cem to set.

MONTGOMERY COUNTY — Geo. M. Kuln's Knox 1, dr 3530 ft.

San Antonio District Wildcats

ATASCOSA COUNTY—Atascosa Oil & Gas Co.'s Peelei 1, sd. Texacosa O. & G. Co.'s Peelei 1, dr 390 ft. DeLange Eiser Co.'s Tom 2, installing new rotary rig.

BEXAR COUNTY — Transcontinental Oil Co.'s Torzell 1, set cas at 617 ft.

GONZALES COUNTY — Bryan Prod. Co.'s Billings 1, dr 194 ft. J. K. Hughes Dev. Co.'s Cost Field 3, dr 1500 ft. W. O. Wood et al's Menely 1, waiting on machinery.

JIM HOGG COUNTY — Forest-Miracle Oil Co.'s Holbein 1, sd. Las Animas Oil Co.'s Holbein 1, dr; 3, dk. Miami-Balderas Oil Co.'s 1, dr. Revere Oil Co.'s Davenport 1, dr. Diamond S. Oil Co.'s Doering 1, dr below 3080 ft. Trussle-Memphis Zapata's Thompson 2, cas set. Homer & Tyson's Tyson 1, recementing. Weber Oil Co.'s Holbein 3, sd 2730 ft. Fresno Oil Co.'s Hinnant 1, fsh 1754 ft for slip. Caprock Oil Assn.'s Nolkemper 1, cas set. Humble Oil Assn.'s East 1, dr 2580 ft. P. W. Pippin's 2, cas reset at 1446 ft, dr.

LIVE OAK COUNTY—Grubstake Investment Assn.'s Nichols 2, dk blown down; erecting new one; Brown 2, dk. Lobo Oil Co.'s Reagan 5, dr. Harkey Oil Corp.'s Herring 1, dr stem in hole at 410 ft.

MAVERICK COUNTY——D. A. Burris' Paula 1, sd. Maverick-Kinney Oil Co.'s 1, sd. Eagle Pass Oil Co.'s 1, sd; 2, dr. Southern States' Indio 1, dr.

MEDINA COUNTY — Mayor Wheless' Jose de la Roche, dr. The B. J. K. Co.'s Adams 1, spudding in. California-Medina Assn.'s Rothe 1, dr 2000 ft. McBride Drilling Co.'s Adams 1, sur 13, dk. Wooly Hill Oil & Gas

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The Helrazer is the only completely successful magnet that has ever been developed for fishing loose objects out of drilling wells.

This tool is especially effective for lifting out small pieces such as under-reamer lugs, socket slips, broken pieces, etc., and it is performing successfully in many fields.

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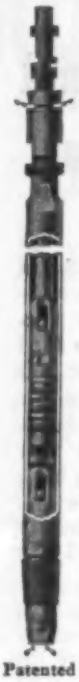

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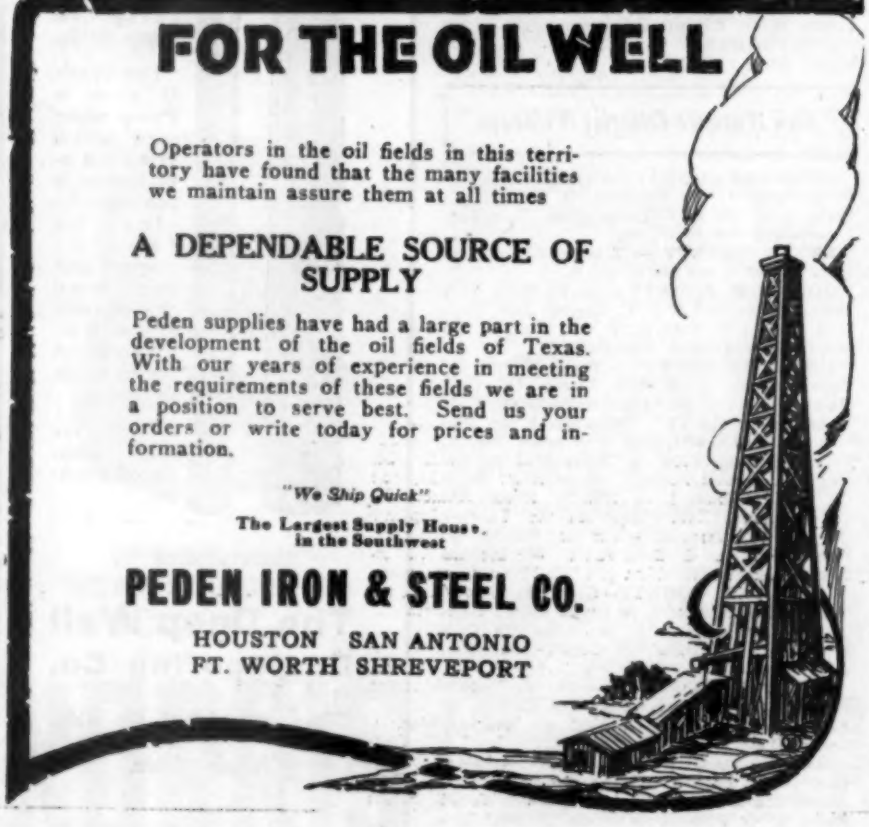

Co.'s Martin 1, sd. Medina Oil Co.'s 1, (Medina school land) sur. 10-12, dr. O'Bryan et al's Nixon 1, sur 14½, dr. Smith & Donaldson's Wilson 1, dr. Charles Jackson et al's Adams 1, sur. 12, lcn. Jacob Huff, Wolff & Ross's Louis Moefield 1, sur. 532, dr.

McMULLEN COUNTY — Circle Y Drilling Co.'s Martin 1, sd 1681 ft. Pioneers Prod. Co.'s Lowe 1, dr. Grubstake Investment Assn.'s Fisher 2, dr; Lark 2, dr; 3, set cas. Burt Oil Co.'s Calliham 1, dr below 900 ft. San Balt Pet. Co.'s Ceb Martin 1, sd 3200 ft. Pioneer Consolidated Pet. Co.'s Martin 1, dr 1681 ft. Lightfoot & Hill's Aycock 1, cas set at 806 ft, dr in. Laughter & Napier's Calliham 1, cemented; Stitz 1, lcn. Dilliham & Thorman's Calliham 1, dr. Frio Oil Co.'s Calliham 2, dk.

SAN PATRICIO COUNTY — Aransas Pass Live Oak Ridge Oil Co.'s Sigmund 3 dr. Rockport Oil Co.'s 2, dr. San Patricio Dev. Co.'s Hattie 2, sd. White Point Prod. Co.'s Rachal 1, sd.

WILSON COUNTY — Pandora Oil Co.'s Ware 2, preparing to resume dr at 1200 ft.

Kansas Wildcats

BARTON COUNTY—Cheyenne Oil & Gas Co.'s Sooy 1, SWc SW 27-18-12, fsh 3525 ft. Haynes et al's 1, SWc SW 31-18-12, lcn. Mountain States Oil & Gas Co.'s 1, SEc NE 27-18-13, fsh 2300 ft. Taylor et al's Johnson 1, NWc SE 24-18-13, lcn.

JEFFERSON COUNTY—Northern Counties' Edwards 1, SEc NW NW 13-9-19, fsh 3400 ft.

OSBORN COUNTY—McKnight et al's Worley 1, NWc NW 34-10-15, rig.

POTTAWATOMIE COUNTY—Crawford et al's Stewart 1, C E L SE SE SE 17-9-12, rig; Greischabert 1, SWc SE SW SW 31-9-12, rig.

RENO COUNTY—Haynes et al's O'Halloran 1, NWc SE NW 28-25-6, dr 2610 ft.

REPUBLIC COUNTY — Mitchell O. & G. Walker 1, SEc NE NE 23-2-1, dr 1600 ft.

RILEY COUNTY—Ritchie et al's Boyle 1, SEc 36-7-4, dr 2300 ft. Welton Oil Co.'s Thierer 1, NWc 20-10-7, fsh 1226 ft.

SEWARD COUNTY—C. T. Development et al's Wood 1, NWc SE 34-34-34, sd 700 ft.

SUMNER COUNTY — Champlin Refining Co.'s Hiltcock 1, NWc NE 16-30-1, sd 3200 ft. S. H. E. Development Co.'s Stout 1, SEc NE 13-31-?, sd 1970 ft. Brady Bros.' Turpin 1, SWc 13-33-2, fsh 3670 ft. Dillard Bros.' Miller 1, NEc SE 9-23-1, fsh 3450 ft.

TREGO COUNTY—Morton et al's Kyser 1, C E½ 9-11-22, dr 1265 ft.

Oklahoma Wildcats

ATOKA COUNTY—McPhearson et al's Wild 1, SWc NE NW 7-2-9, dr 2560 ft. Hanson et al's Dabney 1, C SE NW 17-4-11, rig.

BECKHAM COUNTY—Bollion Oil Co.'s Green 1, C SW SW 34-10-24, sd 1360 ft. Ship et al's Githens 1, SEc NW 14-9-26, r 2800 ft. Ship-Nash et al's 1, SEc NW 35-9-25, sd 2105 ft. J. A. Pringle's Burkholder 1, C NE NE 6-9-24, sd 3110 ft. Magnolia Pet. Co.'s Ezzell 1, NEc 36-9-24, dr 2600 ft. Turman Oil Co.'s 1, SWc NE 4-8-22, fsh 2745 ft. Kadane et al's McGee 1, NEc SE 25-8-22, sd 1027 show of gas.

BLAINE COUNTY—Okomo Oil Co.'s Edlemaier 1, 21-15-10, dr 625 ft.

BRYAN COUNTY—Lyon et al's Coombs 1, SEc SW NW NE 11-6-9, rig.

CLEVELAND COUNTY—Garr Oil Co.'s Holland 1, NEc SE 31-10-4, co 2550 ft.

COAL COUNTY—Basil Oil Co.'s Hich 1, SEc 18-2-9, rig. Bearman et al's Payte 1, SWc NW NE 34-2-9, co 2780 ft. Guy Vaughn's Downwood 1, NWc SW 16-2-10, will spud Nov. 1st. McPhearson et al's Jamison 1, NWc NE NE SW 24-1-8, sd 160 ft.

GREER COUNTY—Western Natural Gas Co.'s De Armond 1, NWc SW 23-7-23, dr 1725 ft.

GRANT COUNTY—Ossenbeck et al's Hoffman 1, SEc 23-29-3, sd 1515 ft. Marland Oil Co.'s Zich 1, SWc NE 7-28-3, dr 2784 ft. Walters O. & G. Co.'s Shephard 1, SWc NE 25-27-7, fsh 3100 ft. Embry et al's Edward 1, C SE SE NW 20-26-4, sd 780 ft. Alcorn Oil Co.'s

Here

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THE following figures will show how well this campaign is going:

	Deposits
Oct. 13	$16,231,521.10
Oct. 1	14,748,048.58
Net gain	$1,483,472.52

Of this increase in deposits, $523,535.29 represents BRAND NEW BUSINESS.

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Hubbard 1, C S L NW 12-26-2, set 10-inch 2000 ft.

HUGHES COUNTY—Flesher Pet. Co.'s Smith 1, NWc NE NW 8-9-12, sd in lime 3150 ft. Independent Oil Co.'s Alexander 1, NEc NW 23-8-10, dr 2335 ft. W. J. Thurber's Foster 1, SEc SW SE 5-7-8, tools in. Producers & Refiners' Marcome 1, SEc NW NE 14-7-8, spudding. Kingwood Pet. Co.'s Burnett 1, NWc NE SW 7-7-10, dr 3915 ft. Paraffin Oil Co.'s Love 1, NEc SE NE, sd 1970 ft. Maxwell et al's Mongo 1, NWc NE 25-6-6, fsh 2070 ft; Charty 1, C SE NW 33-6-6, rig. Link Oil Co.'s Carolina 1, C SE NW 14-6-7, sd 1800 ft. William McDougall's Dindy 1, C SW SW 20-6-7, dr 1120 ft. Middle States Oil Co.'s 1, NWc 13-6-11, dr 2670 ft.

JACKSON COUNTY—Douglas Oil Co.'s Jackson 1, NWc SW SE 20-3-20, co 2215 ft. J. D. Wade's 1, C SW NW 36-2-23, sd 1210 ft.

JEFFERSON COUNTY—Empire G. & F. Co.'s Price 2, NEc 20-3-7, dr 3612 ft. Magnolia Pet. Co.'s Peck 1, C NW SW NW 4-3-6, dr 1126 ft. Humble Oil & Ref. Co.'s Lewis 1, NEc SE SE 16-6-7, sd 1500 ft.

KIOWA COUNTY—Connor et al's 2, NEc NW NW 34-7-16, dr 1435 salt water.

LINCOLN COUNTY—Heinze et al's Horton 1, SWc NE 7-14-4, dr 3187 ft. Sun Ray Co.'s Gallagher 1, C N L SE SE 18-13-5, spudding new hole.

LOGAN COUNTY—Buford-Brim Oil Co.'s Newman 1, NWc NE 32-19-3, dr 2475 ft. Ponca O. & G. Co.'s Lewis 1, SEc 21-19-1, dr 790 ft.

LOVE COUNTY—Wickenhiser et al's Beal 1, NEc SE NW 13-5-3, sd 2465 ft. Cook Oil Co.'s Westheimer 1, C SE SE NW 4-5-3, dr 2630 ft. Reid-Davenport Oil Co.'s Gray 1, NEc 9-7-1, sd 3002 ft.

McCLAIN COUNTY—Day Oil Co.'s Ball 1, SEc NW NE NE 9-5-3, dr 430 ft.

McCURTAIN COUNTY—Fred Ptak's Wilson 1, NWc SE 15-8-25, sd 2700 ft.

MARSHALL COUNTY—Humble O. & R. Co.'s Scott 1, SEc NE SW 22-6-4, dr 2180 ft. Magnolia Pet. Co.'s Everett 1, C NE NE SE 36-7-5, sd 1050 ft.

OKLAHOMA COUNTY—W. R. Ramsey's 1, SEc 8-12-1, sd 3600 ft. Firestone Oil Co.'s School 1, NWc SE 36-11-3, sd 3215 ft.

PITTSBURGH COUNTY—Paraffin Oil Co.'s Pratt 1, NWc SE NE 13-7-12, sd 2000 ft.

PONTOTOC COUNTY—Harper et al's Deuer 1, NWc SE SE 19-5-7, rig. Smith et al's Norris 1, SWc SE 34-4-6, set 6-inch 1580 ft.

POTTAWATOMIE COUNTY—Ossie Oil Co.'s Howell 1, SWc NE 13-10-2, fsh lugs 2190 ft. Magnolia Pet. Co.'s Bredinberg 1, C SE SW NW 18-7-5, dr 2250 ft. Dave Detrick's McGahey 1, SEc NW 10-6-2, dr 2630 ft.

SEMINOLE COUNTY—H. Taylor's Johns 1, SEc NE 34-9-6, sd 2200 ft. Independent Oil Co.'s Ahaisse 1, NEc SW 15-9-8, r 2200 ft. W. E. Phillips et al's Davis 1, SEc NE NE 28-9-8, fsh 1260 ft. Ossenbeck et al's Davis 1, C SW NE 10-8-7, sd 3312 ft..

TILLMAN COUNTY—Luffborough et al's Finley 1, SWc NE SW NW 23-2-17, sd 2875 ft. Okla-Tex Oil Co.'s Riverbed 2, NEc SE SE NW 4-5-14, sd 1619 ft; Owen 2, NEc SE SE NE 7-5-14, sd 1125 ft. Staley et al's Riverbed 1, NEc SE 7-5-14, rig.

WASHITA COUNTY—R. B. Hartman 1, NEc SW SE 23-9-17, dr 1400 ft. Santrock Brothers' 1, SWc NE 20-8-16, dr 2375 ft.

Louisiana Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Brossier Parish—		
Corbett et al's Atkins 2, 3-18-12....	*	1115
De Soto Parish—		
Texas Pacific Coal & Oil Co.'s Roscoe 1, 22-12-13	115	2822
Ouachita Parish—		
Haynes Oil Co.'s Dixie Lumber Co. 1, 54-17-3e	*	2850

DRILLING REPORT

BIENVILLE PARISH—Ohio Oil Co.'s Bodcau Lumber Co. 1, 19-16-6, rig. Smith et al's Durrett 1, 34-18-5, dk. Smith et al's Harrell 1,

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Shreveport, La.
El Dorado, Ark.
Corsicana, Texas
Mexia, Texas
Dallas, Texas

STEEL

6-18-5, dk. Standard Oil Co.'s Scott 1, 21-17-8, dr 2230 ft.

BOSSIER PARISH—Perkins et al's Vance-McFarland 2, 18-19-13, to drill 6-in plug 2510 ft. Sales-Walker Oil Co.'s Bolinger 3, 30-23-11, dr 1785 ft. Tarver Pet. Co.'s Bolinger 1, 15-22-14, sd 2657 ft. Welborn & Deputy's Vey 1, 9-19-11, dr 425 ft. Zink & Kurbert's McGuffin 1, 4-18-11, sd 260 ft.

CADDO PARISH—Brewer et al's Sharp 1, 15-18-16 dr plug 2050 ft. Louisiana-Texas Community Oil Co.'s French 1, 34-23-16, put well on beam; pumped oil; sanded up; cleaning out to drill deeper; 2883 ft. Matson et al's Nickerson 1, 30-19-15, dk. Myra et al's Roberts 1, 34-23-15, sd 2810 ft.

CLAIBORNE PARISH — El Dorado Chief O. & G. Co.'s McKenzie 1, 35-22-7, dr 3560 ft. Ohio Oil Co.'s Teague 1, 10-23-7, sw 2997 ft; to deepen. Standard Oil Co.'s Shaw-Palmer 3, 30-21-7, wosr 2015 ft. Triangle Drilling Co.'s Ranich 1, 17-22-5, dr 2075 ft.

DE SOTO PARISH—Caldwell et al's Welch 1, 7-14-10, sd 995 ft. Phillips-Garrett Synd.'s Platt 1, 36-13-14, to shoot and test 2990 ft. Pollack et al's Jenkins 1, 25-13-13, to drill plug 2500 ft. Snell et al's Thompkins 1, 30-14-12, dr 2855 ft.

LA SALLE PARISH—Urania Pet. Co.'s Urania 2, 20-10-2e, sw with show 16° oil 1550 ft; waiting orders.

LINCOLN PARISH—Bickner et al's Colvin 1, 35-20-2w, dk. Bob Burch Pool's Huffman 1, 20-20-2w, sd 2930 ft. Empire Gas & Fuel Co.'s Hamilton 1, 30-19-1e, dr 910 ft. Four Creeks Oil Co.'s Colvin 1, 35-20-3w, to set 10-in 600 ft. Middlefork Synd.'s Kay 1, 8-20-3w, sd 2280 ft.

RAPIDES PARISH—Acme Oil & Development Co.'s Barrett 1, 20-5-1, dr 800 ft.

SABINE PARISH—Brown et al's Bowman-Hicks 1, 7-7-12, to resume dr 3125 ft; Bowman-Hicks 7, 16-7-12, sd 739 ft. Gladys Belle Oil Co.'s Raines 1, 33-9-11, sd 3890 ft.

RED RIVER PARISH — Coushatta Synd.'s Marsten 1, 24-12-10, sd 2250 ft. Le Grande et al's Fee 2, 2-14-12, set 4½-in 1770 ft U. S. Drlg. Corp.'s Fletcher 2, 10-12-10, to test 1160 ft.

UNION PARISH — Clark & Woodward's Clark 1, 17-23-2e, rig. Collins & Woodley's Newsom 1, 23-23-1e, dr 1700 ft. Davidson & Palmer's Frost-Johnson 1, 18-23-1e, dr 1775 ft. Evan et al's Cole 1, 16-22-2e, lcn. Love Bros.' Security 1, 12-23-1w, sd 2244 ft. Union Parish Drilling Synd.'s Fee 3, 17-23-1, set 6-in 2155 ft.

WEBSTER PARISH—O'Brien et al's Doles 1, 26-21-9, dk tmbrs. Ohio Oil Co.'s Martin 1, 34-23-10, rig. Oil Fields Gas Co.'s Merritt 1, 14-21-10, set 6-in 2510 ft; Pardee 1, 27-23-10, set 6-in 2540 ft. The Texas Co.'s Merritt 1, 5-22-10, dr 3350 ft.

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HIGH GRADE
PETROLEUM PRODUCTS

TULSA, OKLAHOMA

Arkansas Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Columbia County—		
Stough et al Brown 1, 26-18-20.....	*	1146
Nevada County—		
Miller Dee Trust Stone 1, 26-12-20..	*	2560

DRILLING REPORT

CALHOUN COUNTY — Checkerboard Synd.'s Abbott 1, 20-14-14, sd 2524 ft. Harris & Bickley's Freeman-Smith 1, 26-16-13, dr 1120 ft. Lee et al's Freeman-Smith 1, 19-15-12, lcn.

CLARK COUNTY — American Drlg. Co.'s Wilson 1, 15-8-22, sd 392 ft. Arkansas-Oil Co.'s Barringer 1, 26-10-20, sw 2965 ft. Dudley Trust's Grayson 1, 35-9-18, sd 688 ft, may test show at 515 ft.

COLUMBIA COUNTY—Brown et al's Robinson 1, 23-18-23, dr 2815 ft. De Soto & Hickman's Fullenwilder 1, 3-16-21, dr 785 ft. Dowdy et al's Fullenwilder 1, 12-17-22, to test 2166 ft. Hosey & McDonald's Haire 1, 30-19-18, sd 1256 ft. Miller et al's Watts 1, 20-16-18, sd 1990 ft. Woodward et al's Allen 1, 1-18-19, dk.

DREW COUNTY—Graves et al's Karnes 4, 10-13-6, dr 1500 ft. Monticello Ridge Oil Co.'s Wilson 1, 10-12-17, dr 1815 ft. Rhodes et al's Martin 1, 27-12-8, set 12½-in 80 ft.

GRANT COUNTY—Grant County O. & G. Co.'s Cargile 1, 26-5-12, dr 1510 ft.

HEMPSTEAD COUNTY — Columbus Hope Oil Co.'s King 2, 24-11-25, dr 1000 ft. Martin et al's Adams 1, 36-12-27, sd 1805 ft. Meyer et al's Nicholls 1, 17-11-25, dr 1650 ft. Orr et al's Yates 1, 19-12-23, dr 1600 ft.

JEFFERSON COUNTY — Fuller et al's Trimble 1, 31-5-8, sd 2534 ft.

LA FAYETTE COUNTY — Ken-Saw Pet. Co.'s Red River Valley Lbr. Co.'s 1, 34-19-24, coring 2780 ft. La Fayette O. & G. Co.'s Creek 1, 10-13-24, dk.

LITTLE RIVER COUNTY—Gaines et al's Thomas 1, 15-13-29, dr 1700 ft.

MILLER COUNTY—Central Coast Oil Co.'s Mann 1, 23-15-16, sd 3357 ft. Cochran & Ray's Adams 1, 4-14-27, dr 2530 ft.

NEVADA COUNTY — Arkrado Oil Co.'s McCain 1, 36-10-23, rig. Anderson & Edward's Eaves 1, 11-12-23, sd 180 ft. Carter et al's Bailey 1, 31-13-21, sd 400 ft. Day Trust's Westmoreland 1, 10-12-21, sd 1770 ft. Prescott Oil Co.'s Henry 1, 10-12-20, dr 1740 ft. Steele & Sandlin's Martin 1, 13-14-22, to resume dr 62 ft. Transcontinental Oil Co.'s Blakeley 1, 14-13-20, dr 510 ft. Wooten et al's Moore-Martin 1, 9-13-20, r 1120 ft.

OUACHITA COUNTY — Bray & Hawthorne's Halford 1, 20-14-16, setting 8-in 1215 ft. Cox et al's Burton 2, 30-15-17, sw 1960 ft Burton 3, dk. Gulf Ref Co.'s Dawson C-1, 10-15-18, dr 2270 ft. Hopkins et al's Allen-Curry 1, 33-14-19, sd 2009 ft. Leeper et al's Wesson 1, 23-15-19, sd 2182 ft. Peltier et al's Eagle 1, 25-13-16, sd 1520 ft. Pure Oil Co.'s Moline 1, 21-11-17, set 8-in 1771 ft. Riley et al's Henry 1, 10-11-16, sd 2072 ft; Henry 2, 21-11-16, dk. Smackover Creek Oil Co.'s Moon 1, 32-15-17, set 6-in 1861 ft; Moon 2, dk abn.

UNION COUNTY—Bondurant et al's Turbeville 1, 9-18-12, set 15⅝-in 212 ft. Federal Pet. Co.'s Union Saw Mill Co. 2, 28-17-12, dr 2720 ft. Garrett et al's Robinson 1, 33-18-14, dr 890 ft. Isola Oil Trust's Mathews 1, 34-16-14, sd 2257 ft.

Faulting Responsible for Mexia Oil Deposit

Structure is part of the larger fault system, dominated by Balcones fault zone

*By Wallace E. Pratt and F. H. Lahee**
Humble Oil and Refining Company, Houston, Texas; Sun Company, Dallas, Texas

IN THE oil field developed at Mexia, Texas, during the past year, faulting is the dominant feature of the structure which controls the accumulation of petroleum. This paper will describe the Mexia fault,[2] and will discuss its influence upon accumulation, its relation to the regional geologic structure, and the paramount importance of faulting in the petroleum deposits of the Gulf Coastal Plain.

Widely recognized evidence of an anticline[3] in the surface beds at Mexia, together with small gas production from shallow wells led the Humphreys Oil Company under the guidance of F. Julius Fohs to undertake the exploration which finally proved the Mexia field. The discovery well was drilled near the crest of the anticline, but the field as it finally developed proved to be more closely related to a fault which is situated low on the western or reverse dip side of the anticline. The reservoir beds (Woodbine sand at the base of the Upper Cretaceous) were found to be saturated only on the upthrow (eastern) side of this fault, the oil extending back from it a relatively short distance, and barely across the axis of the anticline as displayed in the surface beds. The length of the field along the fault is nearly seven miles while the maximum width is only one mile, and the average width one-half mile. The belt of heavy production extends back from the fault only one-quarter mile.

Northeast Trend

Both fault and fold trend northeast with the strike of a monocline of Cretaceous and Tertiary beds, which dip gently to the southeast away from a perent land mass of Paleozoic and older rocks in central Texas, into the geosyncline of Eastern Texas. The strike of the fault at Mexia changes direction slightly along its course and apparently makes a sharp detour at one point. The fault plane dips west at the remarkably flat angle of about 50° along the middle of the producing area, but steepens toward either end. Toward the south, the throw appears indeed to be reversed since the trace of the intersection of the fault plane with the basal Midway limestone crosses the trace of the intersection with the Woodbine sand near the southern end of production. Another smaller fault which does not appear at the surface, nor affect the production, drops the Woodbine sand to the west along a line east of, and roughly parallel to, the main fault in the southern end of the field. The simple fault system may in reality be complicated by a number of other minor faults, but the important fault which limits production in the Woodbine sand and the only conspicuous fault in the surface beds are as indicated.

Greatest at Highest

The sand on the upthrow side of the fault is some 250 feet higher than on the downthrow side in the middle of the field, descending gradually along the strike of the fault as the throw decreases toward either end. The oil accumulation is greatest in the highest part of this arch against the flat-dipping central portion of the fault, the plunge toward either end tending to prevent escape by longitudinal movement along the fault.

If the position of the principal known faults around the margin of the Gulf of Mexico be indicated even roughly on a map, the Mexia fault immediately becomes an integral part of a larger fault system. This system is dominated in Texas by the Balcones fault zone which encircles the south and east side of the area of Paleozoic and older rocks in the central part of the state, throwing the younger flanking sediments down on the south and east. The Cretaceous rocks have slipped down along the Balcones a maximum distance of about 1000 feet, although not all the displacement occurs along a single plane, and along some faults in the zone the beds are even upthrown on the east. The latest movement along the Balcones is clearly comparatively recent; Baker[4] having correlated it with late Pliocene folding in Southwest Texas. It is known from the records of deep wells along the Balcones, however, that the buried older rocks have also slipped down to the east, even farther than the Cretaceous has, and, it is inferred, therefore, that the Balcones has been a line of displacement in earlier time; perhaps even back into earliest earth history.

Chocktaw Fault

The Choctaw fault in Southeastern Oklahoma, is in close alignment with a possible continuation of pre-Cretaceous age and has its downthrow to the north and west. More clearly related to the Balcones, is the group of faults in Mexico, which, because of their similarity, appear to have resulted from identical stresses farther south along the Gulf Coast. Like the Balcones, these faults, following the margin of the Gulf Coastal Plain, drop the beds east of them; the displacement at places aggregates thousands of feet however, and the faults are correspondingly grander, more profound earth features than the Balcones. Likewise, as in the Balcones fault zone, there are minor reverse displacements in the Mexican fault system which bring the beds up again on the east side of certain breaks.

The Mexia fault has the appearance from its position and trend of a possible en-enchelon extension of the Balcones, the displacement along which decreases to the north until the fault becomes quite obscure in the latitude of Mexia. But the Mexia fault, in its net effect—for the Mexia fault, like the Balcones, is a zone of faulting rather than a single fault—lifts the rocks on its eastern side, whereas along the Balcones, as has been stated, there is a drop to the east. That is to say, if the Mexia fault is in reality an extension of the Balcones, the local stresses which dropped the beds to the east along the Balcones not only die out to the north but have been reversed still farther north, where they actually lift the beds on the east side of the Mexia fault.

Moreover, the Mexia fault, or a zone of similar faults with upthrow on the east, continues to the south-southwest parallel to the Balcones where this fault is itself strongly developed. Obviously in this region the Mexia fault does not replace the Balcones. Furthermore, as has already been intimated, the downthrow is not exclusively to the east along the Balcones nor to the west along the Mexia line. In both these zones as well as in one at least of the faulted areas in Mexico a reaction from comparatively profound downthrows to the east along the western edge of each individual system is expressed by moderately elevated blocks along the eastern edge of the same system. The diagramatic section across the Mexia zone from Tehuacana to Mexia shows this relation clearly.

Origin Clearly Related

As a matter of fact, briefly stated, both the Mexia line of faulting and the Balcones, as well as the faults in Mexico farther south, are clearly related in their origin to a single general cause, namely, the persistent sinking of a great geosyncline or negative element of the earth's crust, the position of which is marked today by the Gulf of Mexico. Intermittently, throughout a large part of geologic time, sediment has been poured into this basin. This load will have tended always to sink and slip away from the margins toward the center of the basin, and marginal faults like the Balcones, with a drop on the basin-ward side, would result from such tendency. But this sinking and downward slipping at the margins of the basin undoubtedly results in consequent buckling and upward reaction farther out in the basin. Concrete evidence of such upward movement is to be seen in the lines along which plugs of salt, or salt domes, have been forced upward from deeply buried salt beds in the central parts of the basin. Due to the same reacting forces, perhaps, the line of faulting on which Mexia is situated, lying out in the basin from the marginal downward slips along the Balcones, raises the beds east of it to an elevation above their normal position.

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*Grateful acknowledgment is made to Mr. D. J. Edson, Division Geologist at Mexia for the Humble Oil and Refining Company, who gathereed and correlated the subsurface data upon which the accompanying text figure of the Mexia field is based.

[2]The fault at Mexia was first noted by Alexander Deussen in Water Supply Paper 335, U. S. Geol. Survey, which attributed the gas production from the shallow sands to the influence of this fault.

[3]George C. Matson, in Bulletin 629, U. S. Geol. Survey, published a map of the Mexia anticline, contouring the shallow gas sand, which he correlated with Nacatoch sand of northern Louisiana.

[4]C. L. Baker, "Review of the Geology of Texas," University of Texas Bulletin 44, Austin, Texas.

Explained in this manner, the Mexia fault zone must have been formed primarliy as a result of nearly east-west compressive stresses, with shear, horizontal movement, and even tension as probable incidental details.

Mexia will probably produce a total of forty-five or fifty million barrels of oil from the Woodbine formation, a volume which makes it important among American fields. This accumulation was trapped along a fault, with only incidental minor arching of the beds and in the absence of any such anticline as generally controls production in beds of equally recent origin elsewhere. The anticline at Mexia would appear insignificant for instance, in Wyoming. Yet faults are rated as of minor importance among recognized factors in the trapping of petroleum. Text books accord them faint praise, to be mentioned along with lensing sands and arrested monoclines as possibly, but rarely, reservoir-forming; or even denounce them as wholly baneful in their effect. But Mexia is not the only example of an important oil field along a fault. It is worth while in this connection to consider the famous Tepetate-Toteco-Alamo line of fields in Vera Cruz, Mexico, the unparalleled accumulation along which is also controlled by faulting.

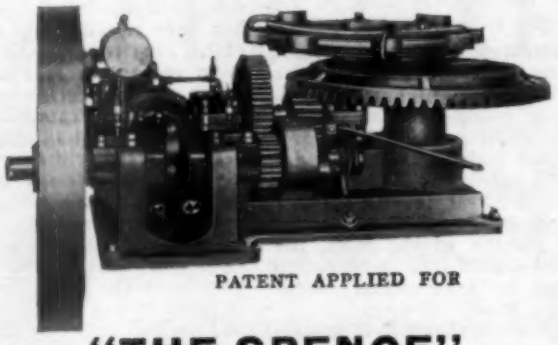
As a matter of fact, faulting is associated with and probably is the controlling structural feature of all the oil fields in the relatively flat lying beds of the Gulf Coast Plain, from the Lower Cretaceous up to the Pliocene. A number of fields in North Louisiana produce oil only in the vicinity of faults. Around the Gulf Coast salt domes, concomitant faulting with resulting fractures and squeezing is undoubtedly more important than any doming effect in building up the remarkable petroleum accumulations which mark those intrusions. The prominent escarpment along which a half dozen fields in Webb and Zapata Counties, Texas, have developed recently is almost surely a fault scarp modified by erosion and the oil accumulation there is unquestionably due to faulting.

It has been generally held that, while minute warping may influence the movement of petroleum in old, compacted rocks like the Paleozoic beds of the Mid-Continent fields, yet folds of considerable magnitude, such as those which characterize the producing areas in Wyoming are requisite to petroleum deposits in the geologically younger rocks. If this were true then the Gulf Coast Plain not only would promise but little in the way of future production but could scarcely have yielded any output of commercial importance in the past since both the undeveloped territory, and the old fields in this area are alike devoid of large folds. The flat lying beds of this region are extensively faulted, however, and from old fields in the vicinity of these faults, nearly a billion barrels of oil have already been produced. The displacement, the fracturing, and particularly the friction which are developed locally through faulting appear to be adequate substitutes for the anticlines which have more commonly been associated with petroleum accumulation. The large undeveloped area in the Gulf Coastal Plain, therefore, contiues to be important in its petroleum possibilities in spite of the absence of folding within its boundaries.

H. L. Pratt, president of the Standard Oil Company of New York, accompanied by his son, H. L. Pratt, Jr., spent the past week as guests of officials of the Magnolia Petroleum Company, which is a subsidiary of the Standard, and made a tour of the Corsicana-Powell field and other producing and refining sections of Texas before departing for Oklahoma. While in Dallas Mr. Pratt stated that the purpose of his visit was to familiarize his son, who recently graduated from Harvard, with conditions in Mid-Continent fields before the latter departs for duty with an oil concern in Mesopotamia and Turkey.

Chicago, Ill., Oct. 25.—Barnsdall Refining Company opened an office in Detroit October 15, with Roy R. Fisher in charge. Chicago is the headquarters of the distributing end of Barnsdall's refining branch. George D. Locke is vice president and manager.

Chicago, Ill., Oct. 28.—The Chicago Bridge and Iron Works has been given the contract for the erection of 13 100,000-barrel steel storage tanks for the Pan American Company at San Pedro. This contract also includes two tanks of 80,000 barrels capacity each.



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Losses of Oil and Gas as Result of Water Encroachment in Various U. S. Districts

LOSSES of oil and gas through encroachment of water in oil sands in the different fields of the United States have been enormous, and entire oil and gas fields have been damaged irreparably by flooding, states the Department of the Interior, following a study of the problem of oil and gas conservation made by engineers of the Bureau of Mines. Encroaching water traps underground oil that probably never will be recovered and causes losses of gas and natural gas gasoline. Water in an oil well so increases lifting costs that many wells are abandoned before the normal recovery of oil and gas is obtained.

Corrosive waters, which attack casing and eventually eat holes in it, are found in many oil fields. In the Eldorado field, in Kansas, it costs operators thousands of dollars each year to replace casing, tubing, sucker rods and other equipment destroyed by corrosive water. Poor or second-hand casing has caused loss of oil and gas in many wells.

Drilling into gas or oil deposits of high rock pressure often results in a "blow-out" or a "wild" well. The usual causes of wild wells are failure to provide suitable control equipment and mistakes by inexperienced workmen, although unforeseen occurrences may also result in a well getting out of control. In the early days of the oil industry most large wells flowed oil and gas into the air until the flow subsided naturally or was cut off by the well caving or sanding up. The gradual development of suitable control heads and fittings, the use of rotary drilling and the introduction of mud fluid have cut down the number of wells that go wild. In fact, equipment and methods are so well developed at this time that there is little excuse for wells getting out of control, and repetition of such occurrences in the same field must be attributed to negligence.

Natural gas is a valuable commodity in most localities. However, in some oil and gas fields so much gas has been produced, particularly with oil, that it has been regarded as a nuisance. Gas is an ideal fuel and is desired as such by every operator. Moreover, it is extremely valuable as a producer of gasoline and much is now being saved. Unfortunately, in the early days more gas was produced than was needed and much was wasted.

Perhaps one of the most spectacular wastes of natural gas occurred in the Cushing field, in Oklahoma, in 1912 and 1913. Conservative estimates place the waste of gas in this field at 100,000,000 cubic feet or more per day for a time. Large flowing wells which produced from 1,000,000 to 10,000,000 cubic feet of gas daily were allowed to flow unchecked; the oil alone was collected and the gas escaped into the atmosphere. Large amount of gas are being wasted in practically every oil field. In the Salt Creek field, in Wyoming, and the Signal Hill, Huntington Beach and Santa Fe Springs fields of Southern California millions of feet of gas and quantities of natural-gas gasoline are being blown into the air daily. Operators and the public have been educated to consider the willful waste of natural gas as little short of criminal. However, there are sill operators who do not recover their casing-head gas.

In the Salt Creek field, in Wyoming, large amounts of natural gas are produced with the oil. Bureau of Mines engineers estimated the gas production to be about 58,000,000 cubic feet a day in November, 1922. The estimated amount of residue gas used as fuel in this field is about 14,000,000 cubic feet, and, in addition, about 1,500,000 cubic feet of raw gas from oil wells is used in field operations. Until recently no use was made of the rest of the gas produced, and the daily loss of gas in the Salt Creek field was probably about 42,500,000 cubic feet.

In 1921 the total amount of natural gas consumed in the United States amounted to 662,052,000,000 cubic feet. This gas came both from gas wells and the casing heads of oil wells. The estimated production of casing-head gas alone reached the astounding figure of

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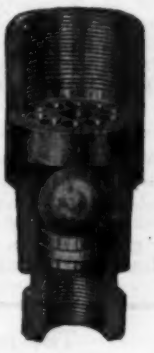

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472,182,000,000 cubic feet. It is probable that 141,000,000,000 cubic feet of casing-head gas was lost in that year. The yearly loss of dry gas from gas wells is also large. These figures give an idea of the magnitude of the natural gas waste in the United States. It seems probable that from about one-third to one-half of all the gas produced is wasted.

The evaporation of natural gas gasoline into the air has been one of the greatest preventable losses in oil field history. As in the case with most oil field losses, the waste can hardly be estimated, either by barrels or by money values. The first natural-gas gasoline was produced in the United States at Titusville, Pa., in 1904, when 4000 gallons were made in one small plant. Natural-gas gasoline from all other gas produced in the United States was being wasted. By 1911 7,426,000 gallons of gasoline were obtained from 2,476,000,000 cubic feet of natural gas; in 1921 449,934,000 gallons of natural-gas gasoline were obtained from approximately 479,618,194,000 cubic feet.

While no accurate figures on the losses of gasoline through failure to treat natural gas are available, it is estimated that since the first natural-gas gasoline was manufactured in 1904 at least 2,500,000,000 gallons of gasoline, or twice the amount actually recovered since that time, have been wasted. The principal loss in natural-gas gasoline occurs from failure to recover and treat the rich casing-head gas from the thousands of small oil wells which produce from 700 to 2500 cubic feet of gas with each barrel of oil.

Casing-head gas from oil wells will produce 0.5 to 8 gallons or more of gasoline for each 1000 cubic feet of gas. In the Burbank field, in Oklahoma, the many large flowing wells produced during their first year enormous quantities of casing-head gas which were not measured and reported, as no gasoline plant was installed for a number of months. Hewitt field, in Oklahoma, produced over 9,000,000 barrels of oil in the one and one-half years before the first casing-head gasoline plant was installed. More than 25,000,000 gallons of gasoline were probably lost during this time from this one field alone.

The Eldorado field, in Arkansas, produced about 12,000,000 barrels of oil during the first year, with at least 40,000,000,000 cubic feet of casing-head gas. From 20,000,000 to 40,000,000 gallons of natural-gas gasoline were no doubt lost in this field.

Oil water emulsions result in large wastes of oil. Bureau of Mines engineers estimate that in 1920 and 1921 more than 100,000,000 barrels of cut oil was produced in the Mid-Continent and Gulf Coast fields. Approximately one-half of this oil was treated, but the other half, worth about $100,000,000, was lost.

Experiments made by Bureau of Mines engineers in the Mid-Continent field indicated that the annual evaporation losses of crude oil from a 55,000-barrel tank amounted in value to $9900 as gasoline, or $2140 as crude oil. The loss from seepage and evaporation in large, well-constructed earthen reservoirs, holding as much as 500,000 barrels and covered with good roofs, which prevent air currents from sweeping over the surface of the oil, varies from 1500 to 4000 barrels per month for California crudes of fairly light grade. A loss of several thousand barrels per month has been known to occur.

The Federal Government, as the largest lessor of oil and gas lands in the United States, is vitally interested in the conservation of those resources. With this end in view, T. E. Swigart and C. E. Beecher, petroleum engineers of the Bureau of Mines, have, at the direction of the Department of the Interior, prepared a manual for oil and gas operations conducted on leased public lands, which contains the recommendations and requirements of the Interior Department designed to bring about the most efficient production of oil and gas on the public domain.

It is pointed out by the Interior Department that the oil industry has progressed steadily. Present operating methods are much more efficient than those of a few years ago. Public interest requires that improved methods, which will result in obtaining the greatest possible amounts of oil and gas from the natural deposits, shall be developed and used.

"Conservation" has almost become a slogan of the American people. Conservation of natural wealth is unquestionably one of the most vital issues confronting the country, for the future growth, prosperity and success of the nation depend largely on natural resources.

The proper interpretation of the conservation of natural resources, however, is not non-use, but use with minimum waste. A greater gift to posterity than undeveloped supplies of raw materials is the advanced civilization made possible by the thoughtful use of a necessary portion of these minerals.

The American petroleum industry is now in its sixty-fourth year. During this time recovery methods have been almost revolutionized. When conducted properly the best practice of today permits little waste of oil and gas. Realizing, however, that all operations are not so conducted, the Secretary of the Interior has charged the Bureau of Mines with the supervision of drilling and production on public oil and gas lands.

The recommendations of Messrs. Swigart and Beecher, looking toward the attainment of efficiency and true conservation in the production of oil and gas, have been embodied in Bulletin 232, copies of which may be obtained from the Department of the Interior, Bureau of Mines, Washington, D. C.

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United States October Production

(Continued from page 9.)

made a slight gain, as result of new production coming from the 1800-foot pay uncovered last summer in the Clara pool and completion of several fair sized producers in the Hirschi area. Young County has shown the effects of the proration policies of the pipe line companies probably more than any single area, and took another drop in production in October, and new production added was almost nil.

Stephens and Eastland counties began making an effort to regain their normal production late in October as result of restrictions on runs being lifted by three of the active crude buyers in the Central West Texas district, and some wells that had been temporarily abandoned are being cleaned out to restore on the pump. A few new locations over a scattered area were reported during the last week in October, and a slight extension was made to the Curry pool in Stephens County with a 400 barrel producer on the southwest edge of the pool. Wildcat interest in West Texas is largely centered around the offset tests being drilled by the Texon Oil and Land Company to its producer on university land in Reagan County, and a completion is expected early in November.

Oklahoma Summary
October, 1923

OKLAHOMA SUMMARY

County—	Completions	Producers	Gas Wells	Failures	Init. Prod. bbls.
Beaver	1	...	...	1	...
Beckham	6	...	1	5	...
Carter	13	12	1	...	2,017
Comanche	1	...	...	1	...
Creek	27	11	2	14	2,389
Garvin	5	2	2	1	130
Grady	6	...	3	3	...
Hughes	1	...	...	1	...
Jackson	1	...	...	1	...
Kay	26	24	...	2	4,853
Marshall	1	...	...	1	...
Muskogee	3	2	...	1	65
Murray	1	1	...	...	150
Noble	19	18	...	1	4,747
Okfuskee	2	...	...	2	...
Okmulgee	16	4	3	9	505
Osage	35	21	3	11	4,711
Pawnee	4	3	...	1	820
Payne	2	...	...	2	...
Seminole	1	1	...	...	50
Stephens	8	1	...	7	200
Tulsa	2	1	...	2	150
Waggoner	2	...	1	1	...
Totals	184	101	16	67	20,787

OKLAHOMA MONTHLY PRODUCTION FOR OCTOBER BY FIELDS

Field—	Barrels
Burbank	2,963,259
Tonkawa	1,727,196
Bristow	1,411,647
Cushing	754,292
Osage (outside Burbank)	724,625
Okmulgee	686,712
Hewitt	675,490
Healdton	415,586
Wewoka	410,440
Duncan and Walters	219,697
Other fields	2,393,324
Total	12,382,268

Texas Summary
October, 1923

CENTRAL AND WEST TEXAS CONDENSED SUMMARY FOR OCTOBER

Field—	Completions	Producers	Failures	Init. Prod.	Monthly Prod.
Cosicana-Powell	136	129	7	344,330	6,495,240
Mexia district	..	..	..	....	1,489,590
Stephens County	7	6	1	*1,680	641,975
Ranger-Eastland	5	3	2	†200	245,750
Desdemona - Gorman - Pioneer	4	4	..	160	185,420
Moran - Shackelford County	1	..	1	....	129 735
Mitchell County	2	1	1	110	23,950
Strawn-Palo Pinto County	5	3	2	‡50	21,005
Brown County	2	..	2	....	17,900
Coleman County	1	1	..	§	5,610
Reagan County	1	..	1	....	4,650
Thrall - Williamson County	..	..	..	....	2,170
Wildcats	1	..	1	....	....
Totals	165	147	18	346,530	9,262,995

*Includes 4,000,000 cubic feet of gas.
†Includes 12,000,000 cubic feet of gas.
‡Includes 11,500,000 cubic feet of gas.
§Includes 500,000 cubic feet of gas.

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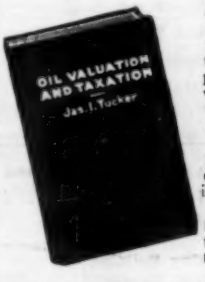

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NORTH TEXAS CONDENSED SUMMARY FOR OCTOBER

Field—	Completions	Producers	Failures	Init. Prod.	Monthly Prod.
Burkburnett	9	7	2	1,228	744,700
Electra	14	6	8	625	725,285
Holliday - Archer County	45	37	8	7,320	555,095
Young County	4	1	3	20	155,155
K-M-A	2	1	1	10	41,035
Iowa Park	2	0	2	...	25,535
Petrolia - Clay County	6	3	3	*	14,030
Jack County	1	...	1	...	1,085
Wildcats	6	1	5	15	....
Totals	89	56	33	9,218	2,261,920

*Includes 1,225,000 cu. ft. gas.

TEXAS GULF COAST MONTHLY SUMMARY

Barbers Hill	..	..	..	...	11.222
Batson	..	..	..	...	36.394
Big Hill	..	..	..	...	3,410
Blue Ridge	..	..	..	...	25,141
Damon Mound	..	..	..	...	64,263
Goose Creek	5	4	1	330	407,756
High Island	..	..	..	...	1,612
Hull	13	13	..	73,225	649 853
Humble	..	..	..	...	183 955
Markham	..	..	..	...	3,078
Nacogdoches	..	..	..	...	3,410
Orange	14	11	3	6,567	670,673
Pierce Junction	..	..	..	...	18,662
Saratoga	..	..	..	...	113,165
Sour Lake	2	1	1	18	228,206
Spindle Top	1	1	..	100	27.745
West Columbia	2	1	1	25	496.723
Wildcats	5	..	5	...	....
Totals	42	31	11	80,255	2,596,250

Arkansas Summary
October, 1923

ARKANSAS MONTHLY CONDENSED SUMMARY

Field—	Completions	Producers	Gas Wells	Failures	Init. Prod.	Monthly Prod.
Smackover	57	46	4	7	21,082	3,189,032
Stephens	11	10	..	1	340	100,905
El Dorado	..	..	..	..	...	345,247
El Dorado E. Field	7	7	..	..	1,195	243,753
Irma	2	..	..	2	...	....
Wildcats	7	..	..	7	...	....
Totals	84	63	4	17	22,617	3,878,968

Louisiana Summary
October, 1923

LOUISIANA MONTHLY CONDENSED SUMMARY

Field—	Completions	Producers	Gas Wells	Failures	Init. Prod.	Monthly Prod.
Bellevue	15	8	..	7	620	199,051
Caddo	6	4	..	2	57	339 605
Elm Grove	2	..	1	1	...	40,641
Haynesville	3	1	..	2	75	755,377
Homer	..	..	..	..	...	298,747
Vinton	..	..	..	..	...	186,062
Bull Bayou	..	..	..	..	...	185 876
Evangeline	..	..	..	..	...	23,250
Edgerly	..	..	..	..	...	12,958
Anse Le Butte	..	..	..	..	...	1,147
Monroe	16	..	16	..	...	....
Dolet Hills	1	1	..	..	50	....
Webst'r Parish	1	..	1	..	...	....
Red River	1	1	..	..	10	....
Wildcats	6	..	..	6	...	....
Total	51	15	18	18	812	2,042,714

Kansas Summary
October, 1923

KANSAS MONTHLY PRODUCTION FOR OCTOBER BY FIELDS

Field—	Barrels
Eldorado	542.407
Greenwood	424,762
Elbing and Peabody	343.015
Fox-Bush	213,838
Blankenship	120 218
Florence and Covert	119,877
Augusta and Douglas	112,933
Leon and Webster	47.492
Other fields	304,358
Total	2,228,950

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KANSAS SUMMARY

County—	Completions	Producers	Gas Wells	Failures	Init. Prod. bbls.
Butler	6	1	...	5	8
Chase	1	...	...	1	...
Coffey	1	1	...	...	20
Cowley	6	1	...	5	40
Elk	2	...	...	2	...
Greenwood	11	6	...	5	560
Harvey	1	...	...	1	...
Lyon	2	...	...	2	...
Osage	1	...	...	1	...
Total	31	9	...	22	628

Eastern States Summary
October, 1923

WEST VIRGINIA

County—	Completions	Producers	Gas Wells	Failures	Init. Prod. bbls.
Ritchie County	28	6	15	7	40
Doddridge	10	5	3	2	68
Wetzel	10	1	6	3	30
Gilmer	15	3	10	2	52
Marion	6	1	4	1	10
Pleasants	3	3	...	...	14
Lincoln	5	2	3	...	8
Cabell	3	1	2	...	5
Roans	6	3	2	1	9
Calhoun	6	...	6	...	....
Kanawha	3	2	1	...	7
Marshall	4	1	2	1	15
Putnam	4	1	3	...	25
Wirt	4	...	...	4	....
Roane	6	3	2	1	9
Wood	2	2	...	...	7
Braxton	3	...	2	1	....
Lewis	4	...	4	...	....
Monongalia	4	1	3	...	5
Harrison	1	...	1	...	....
Total	123	33	67	23	495

KENTUCKY

Cumberland-Monroe	17	6	1	10	480
Johnson-Magoffin	30	30	...	...	678
Lawrence-Johnson	19	19	...	...	388
Allen	24	11	...	13	169
Hardin	1	1	...	...	....
Barren	4	3	...	1	29
Floyd	1	...	1	...	....
Lee	5	5	...	...	13
Metcalf	3	...	1	2	....
Owensboro District	5	4	..	1	32
Powell	1	1	...	...	10
Warren	17	8	3	6	191
Wayne	1	...	...	1	....
Jefferson	1	...	...	1	....
Muhlenburg	1	...	...	1	....
Graves	1	...	...	1	....
Simpson	4	1	...	3	3
Calloway	2	...	...	2	....
Hopkins	1	1	...	...	2
Meade	1	...	1	...	....
Total	139	90	7	42	1,985

TENNESSEE

Clay	5	...	...	5	....
Marshall	1	...	...	1	....
Warren	1	...	...	1	....
Total	7	...	...	7	....

INDIANA

Gibson	1	1	...	...	3
Greene	1	...	1	...	....
Jay	3	3	...	...	40
Knox	1	1	...	...	15
Sullivan	3	1	...	2	1
Wells	1	1	...	...	15
Totals	10	7	1	2	74

GEORGIA

Wheeler	1	...	...	1	..

PENNSYLVANIA

County—	Completions	Producers	Gas Wells	Failures	Init. Prod. bbls.
Allegany	2	...	...	2	....
Bradford	38	36	...	2	187
Center Middle	12	10	2	...	47
Clarion	7	3	3	1	9
Forest	6	3	3	...	38
Greene	16	...	14	2	....
Venango	15	11	...	4	30
Washington	1	1	...	...	225
Total	97	64	22	11	536

OHIO

Washington	11	10	1	...	33
Meigs	2	2	...	...	15
Muskingum	3	1	...	2	3
Noble	4	1	...	3	2
Morgan	1	...	...	1	....
Knox	17	6	7	4	24
Licking	8	5	2	1	35
Hocking	13	6	5	2	215
Wayne	9	1	5	3	2
Medina	7	...	5	2	....
Ashland	4	...	3	1	....
Holmes	6	...	5	1	....
Perry	5	2	...	3	5
Jackson	5	...	5	...	....
Wood	18	15	2	1	342
Hancock	6	6	...	...	81
Mercer	8	6	...	2	104
Fairfield	9	5	1	3	375
Van Wert	3	2	...	1	43
Coshocton	1	1	...	...	20
Guernsey	1	...	...	1	....
Cuyahoga	1	...	...	1	....
Ottawa	3	3	...	...	22
Allen	3	3	...	...	90
Auglaize	1	1	...	...	10
Hardin	1	...	1	...	....
Clark	1	1	...	...	45
Columbia	1	1	...	...	2
Monroe	1	...	1	...	....
Sandusky	1	1	...	...	7
Shelby	1	1	...	...	1
Total	155	80	43	32	1,476

ILLINOIS

Clinton	1	...	...	1	....
Crawford	3	1	...	2	2
Clark	1	1	...	...	65
Jackson	2	...	2	...	....
Lawrence	2	2	...	...	25
Monroe	1	1	...	...	5
Wabash	2	...	...	2	....
Total	12	5	2	5	97

NEW YORK

Allegany	20	19	1	...	98

OIL COMPANIES—INDEPENDENTS
wish connection land department or investigation of properties. Have had broad experience Texas, Louisiana and Arkansas. Substantial references. Box 97, care OIL WEEKLY.

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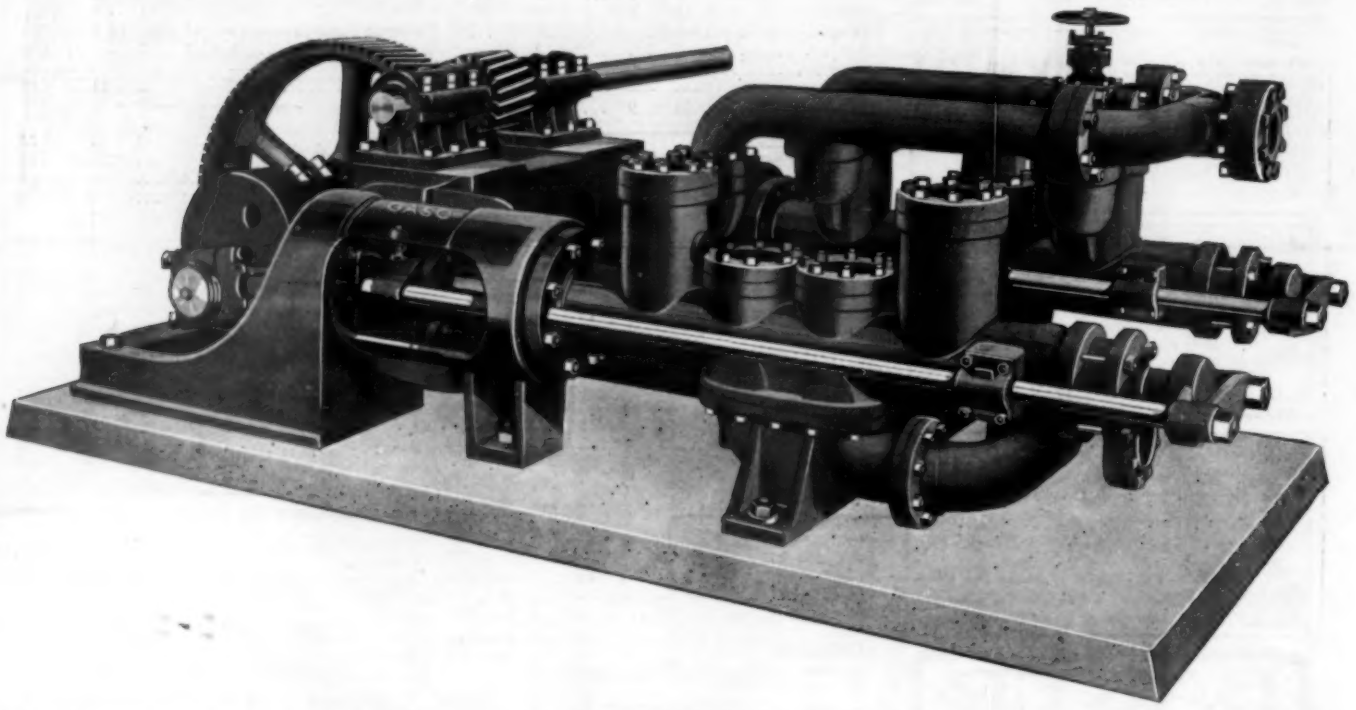
The Biggest Pump Ever Built in the Midcontinent



Another Gaso Achievement!

The biggest pump ever manufactured in the Midcontinent was recently completed at the Gaso plant, thoroly tested and found absolutely successful. It is now available as part of the regular Gaso line.

Specifications of the new pump are as follows:

Four-inch to 5-inch plungers, 12-inch stroke, horizontal duplex outside packed plunger type, for capacities ranging from 130 to 204 gallons per minute, against pressures from 700 to 900 pounds per square inch. Speed 50 R. P. M.'s, 6-inch suction, 4-inch discharge. Furnished with either cast iron or cast steel fluid ends and with seven-degree or herringbone gears.

This giant pump is another evidence of Gaso's determination to make its line so complete that for every common oil field need there will be a Gaso pump specially designed to meet it. The line now includes a large variety ranging from the smallest and simplest specimen to the giant illustrated above.

No matter what pumping problem you face, therefore, you can be sure of correct design, fewer but stronger parts and highest quality thruout by adopting the Gaso. Our 64-page catalog describes the Gaso line fully. Shall we send you a copy?

GASO PUMP & BURNER MFG. CO., Tulsa, Okla.

GASO PUMPS

for oil field uses

Manufacturer and Supply Dealer Notes

Sizer Steel Corporation To Reopen Oil Tool Plant

Buffalo, N. Y., Oct. 28.—Funds for resumption of operations of the commercial forgings branch of the Sizer Steel Corporation have been voted by creditors of the concern, which is now in receivership.

This will allow the production of bits, jars and spiral drilling stems, the sale of which will be under H. W. Hunsiker, assisted by L. E. Nebergall of Denver, inventor of the drilling stem. L. S. Allen of Tulsa, will have charge of sales within the oil territory.

Receivers of the company are C. B. Porter of Buffalo, former president of the Sizer Forge Company; John T. Dillon of Buffalo, president of the Titusville Iron Company, and Stewart F. Hancock, attorney of Syracuse.

Demand for Cordage Is Heavy in North Texas

Houston, Texas, Oct. 29.—An unusually heavy demand for cordage and wire rope, especially for the Powell field and North Texas, is being experienced, according to Rex Frazier, president of the Texas Rope Company, Southwest distributors of Waterbury wire rope and Waterbury fibre ropes for the Southwest. The company, to take care of its extensive business in the oil fields of the Southwest, has gathered at Houston what is probably the biggest stock of cordage in the Southwest.

Mystery Surrounds Work in Peruvian Fields

(Continued from page 33.)

facilities. The last well was a moderate producer.

Highest Field

The Titicaca oil field is the highest in the world, being located 13,000 feet above sea level, on the great plain that lies between the two main Andean ranges in Southern Peru and Bolivia. It is eight times the height of the highest field in California.

Due to its being so far removed from tidewater, and because of the limited local demand for the oil, the territory was never developed extensively, and in 1907 the property was sold to Chilean capitalists, who still operate it. The oil in the Titicaca field exposed to the open air will congeal at night, forming a large mushroom effect, and melt in the morning sunlight.

In due time, Mr. Brown returned to California and resumed an earlier association with the Union Oil Company of California. One year later I said adios to the land of the Incas and rejoined Brown in the service of the Company.

In 1922, Peru produced a total of 5,332,000 barrels, which may make it appear as a pigmy among giants, in the light of the production of the United States of 551,197,000 barrels; but disassociated from the colossal figures provided by the recognized aristocracy of the producing countries, the fact that Peru has in fourteen years increased its annual production by over 4,000,000 barrels is significant of the growing importance of the land of the Incas as an oil producing country.

Purchasers Getting Off for Channel Trip

Another Supply Company Builds Branch at Wewoka

Tulsa, Okla., Oct. 30.—One of the largest and best equipped supply stores in the Mid-Continent field is to be erected at Wewoka, Oklahoma, by the International Supply Company, it is announced by S. E. Savage of Tulsa, secretary-treasurer of the company. H. S. Lindenmuth will be in charge of the Wewoka branch and "Salty" Clark will be field man.

The establishment of a branch at Wewoka by the International Supply Company is in keeping with the company's policy of providing close in field service to companies operating in Seminole County.

A-1 Packer Company Has New Quarters in Tulsa

Eldorado, Kans., Oct. 30.—General offices of the A-1 Packer Corporation, manufacturers of oil and gas well packers, swabs and plugs, now are located at Tulsa at 230 East Third street in that city. Factory and works of the company are located here but it is the intention to maintain some manufacturing equipment in Tulsa.

Officers of the A-1 Packer Corporation are L. M. Robinson, president; B. E. Joslin, secretary, and C. F. Walton, treasurer. Through the sales organization the company has built up an extensive trade throughout the oil country.

MILWAUKEE AT DALLAS

Dallas, Texas, Oct. 27.—Milwaukee Tank Works has recently opened an office here. E. A. Canavan, manager of the Texas division, is in charge of the office and will maintain headquarters here while working all Texas.

J. H. McEvoy, Jr., with the J. H. McEvoy & Co., manufacturers of wireless strainers, has returned to his offices in Houston, Texas, following an extended trip to the West Coast.

Purchasing Agents See Houston Ship Channel

Houston, Texas, Oct. 27.—The Purchasing Agents Association of Houston, with their wives and sweethearts, made a trip down the Houston Ship channel this afternoon, on the good boat Nicholas, to the San Jacinto battle ground, where a basket picnic was held. A representative of the Houston Chamber of Commerce was on board and described the industries along the channel as they were passed.

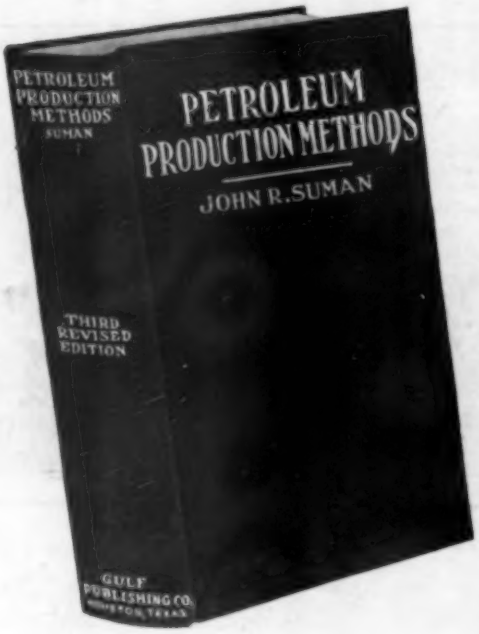
Eddie Hail of the Empire Electric Supply Company was chairman of the committee which arranged the outing. F. R. (Doc) Oldham, purchaser for the Gulf Companies, was on the job, dispensing coffee with one hand and cups with the other, while Emmett Nolen, purchaser for the Texas Company, followed suit with the sugar and cream. Bert Childs of the Boykin Machinery and Supply Company, led the purchasing agents' "Glee Club" in what they described as singing.

OPENS TULSA OFFICE

Tulsa, Okla., Oct. 27.—The Brown Welding and Machine Company of Breckenridge, Texas, has opened a branch office here at 310 East Third street. The company manufactures all kinds of oil well fishing tools. Cleve Johnson will be in charge of the Tulsa branch store.

New York, Oct. 28.—H. D. Carter, former manager of the marine and jobbing departments of the Pierce Oil Corporation, has resigned to engage in the business of jobbing and marketing of oils. Offices have been opened at suite 1106, 165 Broadway.

Charles W. Brown, field superintendent, in charge of the Invincible Oil Company's properties in the Humble and Blue Ridge fields of South Texas, is visiting his company's headquarters at Shreveport, and inspecting the properties of that and associated companies in North Louisiana and South Arkansas.



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Latest Drilling Devices fully described: The "Make and Break" rotary. Collapsible bits and other new bits. Weight indicators.

DIAMOND DRILLING FOR OIL—EXPLORATION AND EXPLOITATION.

What do you know about this newest device being used by oil companies all over the world? This system fully described and illustrated.

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TEMPERATURE OF DRILL HOLES.

SWABBING.

EVAPORATION LOSSES ON STORED OIL AND HOW TO STOP THEM.

HEAT TREATMENT FOR DRILL BITS.

LATEST "A. P. I." TABLES

for correcting gravity readings according to temperature reading. These tables are absolutely new and have not been published elsewhere to date.

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Drilling methods—all systems fully described.

CHAPTER II—
Method of shutting off water—full description of cementing methods and use of packers.

CHAPTER III—
Operation of properties and handling of production.

CHAPTER IV—
Treating emulsions—a very important subject thoroughly discussed.

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Tables and useful information condensed. Information on various subjects which oil men are constantly needing for reference.

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NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Safety Roof for Tanks Is Columbian Product

Evaporation losses constitute one of the biggest problems that the man who is storing oil has to face. The total loss of oil by evaporation each year has been estimated at 600 000,000 gallone valued at about $150,000,000.

The critical need of lessening such tremendous losses, led to the invention of a new safety roof for oil tanks, by the Columbian Steel Tank Company of Kansas City, Missouri.

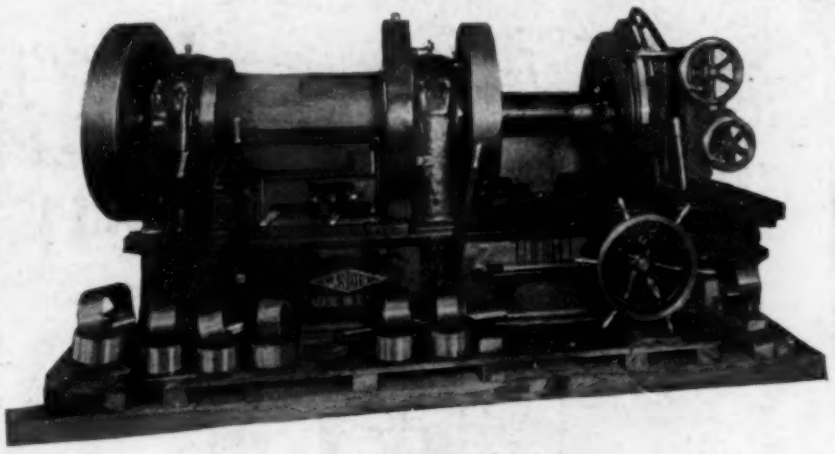
This safety floating tank deck is a permanent structure, constructed of the same quality of steel as the tank. Floating upon the surface of the oil as it does, it is not exposed to injurious gases, consequently it has exactly the same life as the tank. One of its patented features provides ample drainage of all water from its entire area almost as rapidly as rain falls or snow thaws.

How it Is Made

The tank deck is a steel disc—a duplication of the tank bottom except that it is from 12 to 18 inches smaller in diameter than the diameter of the tank. The steel plates of this disc may be united and made tight by bolting and packing, by riveting and caulking or by welding. The disc is assembled on a substantial sub-structure, the girders of which radiate at all angles from a center collar or sleeve around a steel pole anchored at the bottom center of the tank and centered by guy cables to the top edge of the tank. A second set of cables from top of collar to deck, midway of its radius acts as additional reinforcement to sub-structure.

The intervening space between the tank wall and the floating deck is filled with a ring of patented steel baskets containing gravel. This ring of baskets extends around the entire circumference of the tank. The baskets are attached to the outer rim of the floating deck and from the weight of the gravel fit snugly against the tank wall at all positions of the deck. These patented baskets are flexible, i. e., they expand and contract to conform with any irregularities in the tank's periphery and to clear projections such as bolt and rivet heads, lapped seams, bulges, etc., as the deck raises and lowers with the filling or emptying of the tank. The steel baskets are in effect a hinged continuation of the oil tight steel deck. They extend above the level of the deck and below the oil level, insuring ample gravel capacity to prevent any circulation of air. Further information can be secured by writing the Columbian Steel Tank Company, Kansas City, Missouri.

Wewoka, Okla., Oct. 29.—A combination warehouse and storeroom has been opened here by the International Supply Company.



Landis Patented Chaser

Landis Patented Chaser New Improvement To Company's Threading and Cutting Machine

The Landis patented chaser, an improvement on threading and cutting machines sold by Landis Machine Company, Waynesboro, Pennsylvania, will be of interest to the oil industry. This chaser has a tangential position to the pipe which reduces friction and permits of high cutting speeds. There is also sufficient flexibility to the rake angle to permit it to be ground to suit the material being threaded. One set of chasers will thread any diameter as long as the pitch and taper of the thread remain constant, and any one or more of the set of chasers may be replaced without renewing the entire set. The chaser may be employed in threading close nipples throughout its entire length, inasmuch as the contour is permanent. Hobbing, retempering and annealling are eliminated when the chaser is dull by giving it a slight grinding at the cutting edge. Each grinding gives the chaser the same efficiency as a brand new die.

How it Is Used

The patented chaser is used on the Landis 12-inch pipe threading and cutting machine having a range from 2½ to 12½ inches. The machine cuts at a speed of 30 circumferential feet per minue, actual threading time being 2½ minutes. A perfect thread is given. Because of its strength and durability this machine is especially adaptable for oil country use.

Geared head stock and cut gears of steel are features of the machine. The head is made entirely of steel and is manually operated. The machine is fitted with bronze bearings and also with gears that run in an oil bath. A quick power traverse gives the machine extra efficiency, and an automatic stop prevents the carriage from running into the chuck or off the guides. The reaming tool is locked, thereby saving time and labor during the reaming operation. The chucks are three jawed and have universal adjustment.

The weight of the machine is 14,000 pounds. Further information can be secured from C. N. Kirkpatrick, sales manager, Landis Machine Company, Waynesboro, Pennsylvania.

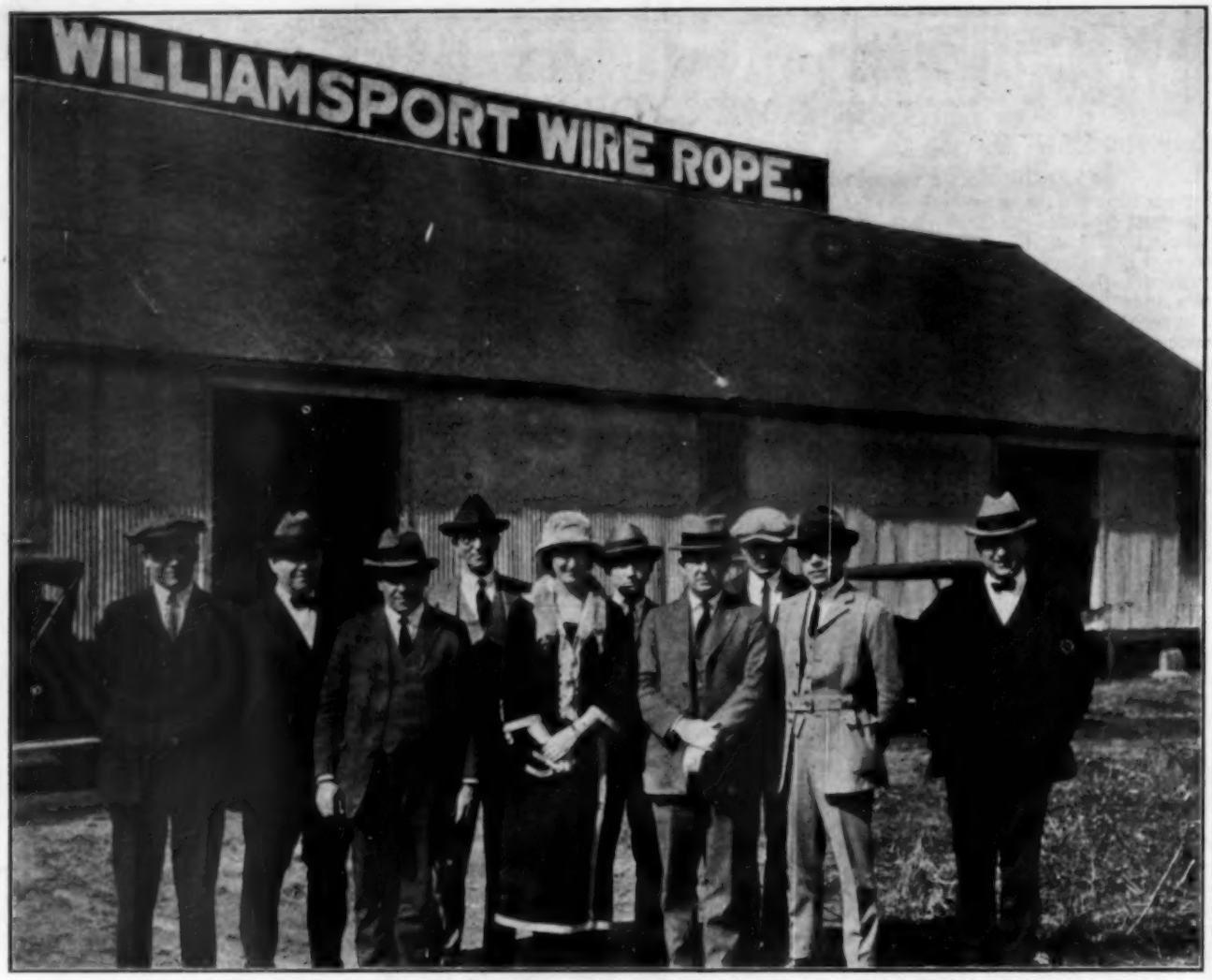
New Booklets on Diamond Drilling in Oil Industry

Field men or executives interested in the application of the diamond drill to the oil business will want to read two new booklets just published by the Sullivan Machinery Company, Peoples Gas Building, Chicago. One, entitled "Oil Finding Up-to-Date," makes some simple remarks about geology and diamond core drills, while the other, "Diamond Drilling for Oil," goes more into detail as to the operation of a diamond drill, describing closely the various features of the Sullivan drill. Letters asking for copies should be addressed to the company, attention S. B. King.

INDIANA OIL SHALES

In the survey of the oil resources of Indiana, being conducted by the Department of the Interior through the Bureau of Mines, in co-operation with Indiana University, Prof. John R. Reeves has finished extensive field studies which occupied most of the summer. Additional equipment installed in the university laboratories will permit the determination of the heat units and the amount of sulphur in the shale and shale oil.

The OIL WEEKLY will print on this page data on new oilfield equipment, improvements on old equipment, news of new catalogs, bulletins, etc. This department is handled exclusively by the editorial department and has no connection with the advertising department. Data will be carried on anything which the editorial department thinks of interest to our readers, regardless of whether or not the manufacturer is an advertiser in The OIL WEEKLY.—Publisher.



THE WILLIAMSPORT TULSA STAFF
IS AT YOUR SERVICE

The Williamsport Wire Rope Company's Tulsa office is in charge of the distribution of WILLIAMSPORT Wire Lines to the entire oil industry.

This office has been responsible for many of the improvements in wire line design to especially meet Oil Industry requirements.

Individually and as a group our Tulsa staff want to be of any possible service to wire line users. Visit us, when in Tulsa. We are thoroughly posted on the scientific, economical application of wire lines to Oil Industry needs and invite your questions on any points.

Our Tulsa staff and Tulsa warehouse are shown in the photograph above. Left to right those shown are: R. A. Bachlor, Hal Gruber, W. H. Graham, F. H. Payne, Isabella Undercofler, C. M. Woodward, V. D. Tilden, J. E. Peery, J. A. Dudley, and C. F. Cranmer.

WILLIAMSPORT
WIRE ROPE COMPANY
Kennedy Bldg., Tulsa

Houston Graham Mildred Shidler Blackwell Ardmore Holdenville Okemah Muskogee Smackover Arkansas City El Dorado Shreveport Casper

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Midland Supply Co., Pawhuska and Hominy, Okla.

American Tool & Supply Co., Bristow, Okla.

Cushing Machine & Tool Co., Cushing, Okla.

Petroleum Supply Co., Houston and Mexia, Texas; El Dorado, Ark.

Federal Supply Co., Electra and Mexia, Texas.

Sabine Supply Co., Orange, Texas.

Bovaird & Seyfang, Pittsburgh and Bradford, Pa.

Branchland Supply Co., Huntington, W. Va.; Paintsville, Ky.

Dunham & Lawler, Los Angeles, Cal.

Montana Lumber & Hdw. Co., Lewistown and Winnett, Mont.

PERSONAL MENTION-MEN YOU KNOW

B. G. Dawes of Columbus, Ohio, president of the Pure Oil Company and also the Humphreys Pure Oil Company, accompanied by W. Paul Gage of Dallas, vice president of Humphreys Pure Oil Company, have completed a tour of the various properties of the Pure interests in the Corsicana-Powell and Mexia fields.

C. B. Watson of Columbus, Ohio, assistant to the president of the Pure Oil Company, spent the past week in Texas on business for the company.

William E. Higby, Tulsa, purchaser for the Minnehoma Oil Company, has gone to Los Angeles on a business trip to confer with the president of the company, George Getty.

Tom Cheasley, purchaser of the Ryan Motor Car Company, is away from Tulsa on a business trip to New York City, where he is to confer with Pat Ryan.

A. G. Francis of the Manhattan Rubber Manufacturing Company at St. Louis, is making a tour of the Mid-Continent oil fields.

P. A. Conway, new commerce counsel and traffic manager of the Western Petroleum Refiners Association, formerly traffic counsel of the Kansas Public Utilities Commission of Topeka, Kansas, expects to move to Tulsa next week, and will reside at 144 East Twenty-first street.

F. W. Edwards, sales manager of the Rossendale-Reddaway Belting Company of Newark, New Jersey, is on a tour visiting the company's various distributors in the Mid-Continent field.

J. A. Giesmar, assistant general manager of the National Supply Company of Toledo, Ohio, left Thursday night for Fort Worth, after a stay of several days in Tulsa. From Fort Worth Mr. Giesmar will return to Toledo.

Sailing from New York Wednesday, October 24, James E. O'Neil, former president of the Prairie Oil and Gas Company, left for Paris. He intends to be in Europe for possibly six weeks, and is on a combined business and pleasure trip. Among those to see him off was A. C. Bedford, chairman of the Standard Oil of New Jersey.

T. E. Swigart, superintendent of the petroleum experiment station of the Bureau of Mines, Department of the Interior, at Bartlesville, Oklahoma, has been granted a furlough of several months in order that he might respond to a call from India by the Attock Oil Company, Ltd., to assist in solving operating troubles on holdings of the company.

W. T. Wallace of Pittsburgh, vice president of the Venezuela-Gulf Oil Company, a subsidiary of the Gulf Oil Corporation, is due to arrive in Caracas, Venezuela, late this month for an inspection tour of the company's holdings in the South American Republic.

Press Lowrance, former mayor of Ponca City, and now head of the Northern Oklahoma Royalty Company, has been on the sick list, but is better at this time.

W. L. STEWART,
President of the Union Oil Company of California, the second largest oil producing company on the West Coast.

F. H. Wickett, president, and C. F. Sabourin, head of the land department of the Dixie Oil Company, which purchased a part of the Oklahoma Company (R. H. Smith's) properties, spent a few days last week at Wewoka.

E. C. Wilson, president of the Wilson & Willard Manufacturing Company, headquarters at Los Angeles, plans to leave about November 1 for a trip over Europe, combining business with pleasure. He will be accompanied by his wife and family.

H. A. Myer, generally known as "Hub", assistant to the vice president and general manager of the Prairie Oil and Gas Company, was in Tulsa on Wednesday of last week. He returned to his home in Independence, Kansas, Thursday.

L. A. Ogden and M. J. Kirwan, petroleum engineers of the Department of the Interior, with headquarters at Bartlesville, Oklahoma, have recently visited oil fields in Kansas and gathered preliminary information on drilling production problems.

Homer C. Detrick of Okmulgee, head of the Chief Drilling Company and prominent operator in the Ogmulgee fields, has moved his headquarters to Tulsa, and has opened an office at 401 Kennedy Building.

Howard Bennette, secretary of the Western Petroleum Refiners' Association, has recently returned from a two weeks' business trip to Texas and Louisiana.

C. C. Herndon, executive vice president of the Skelly Oil Company, is recovering from an attack of influenza.

W. L. Walker, independent operator with offices in the Kennedy Building, Tulsa, has just returned from a 10 days' business trip to Pittsburgh, Pennsylvania.

E. W. Marland, head of the Marland Oil Company, has been confined to his home on account of illness, but reports indicate that he is on the road to recovery.

Roger F. White, assistant chief of the Oil and Gas Valuation Section of the Treasury Department, has resigned his post in Washington, D. C., to become connected with the organization of Walter S. Clute, petroleum engineer in Los Angeles. He will have charge of the valuation work for income tax and capital stock tax purposes. Mr. White has had wide experience in valuing oil properties, having been at one time in charge of the Wyoming and Mid-Continent sections of engineers for the Bureau of Internal Revenue.

R. C. Flournoy, who has been sales manager for the Wilson Oil Tools Corporation at Los Angeles, for more than eight years, has resigned his position, and says he expects to play around for the next few months. Mr. Flournoy's two sons are connected with the organization and since they are fast climbing upward, he felt that he was due a little fun and he decided to take it while he could thoroughly enjoy himself, and let the boys do the work.

A. R. Flournoy, who has been employed some time by the Wilson Oil Tools Corporation at Los Angeles, has recently been promoted to the field sales force. A. R. is very much like his father, R. C., especially when it comes to making friends with people who buy oil field equipment. Really he looks a little like R. C.

A few of the many Moore Derricks erected by the Gulf Production Co. at Caddo Lake, La.

Inevitably, the "Big 'Uns" Adopt Moore Derricks

Little time is lost in adopting the Moore tubular derrick by the big companies which have once thoroughly tried, tested and compared derricks of wood and steel. Logically they proceed to buy the Moore tubular derrick on the basis of lowest ultimate cost.

Its great strength and light weight; its long life; its simplicity and ease of erection; its safety against fire and wind hazard—these are a few of the considerations which every day make big operators adopt the Moore derrick.

At Caddo Lake, La., a few years back there was hardly a Moore derrick to be seen. A year ago there were a few, and today there are a great many. Eventually you may scan the lake in vain for a wood derrick, remembering that not long ago there was no other kind.

The choice of a steel derrick is easy—the Moore derrick is invariably the choice of the large majority of operators using steel derricks. The Moore derrick, years ago, passed the experimental stage, and the evidence of over 20,000 Moore derricks in successful use should mean more to you than all the reasons we could give you for its superiority.

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Letters of a Coastal Bollweevil

mi deer cleopatry

cleo hunny i am back 2 huston now an i dont gess it makes mutch difrents 2 yu how i gotten back jest so i am back an this clost 2 yu agin, eh hun. i no yu like 2 feel that i am this clost 2 yu so i can mabe git time 2 run down 2 sea yu sum times.

wel hunny yu remember sum time ago i was a ritin 2 yu about mi supe theery of the formashun of oil. wel now i hav got all the high brow scients fellers werkin on that theery an i happen 2 sea a coppy of the litrary digest paper the uther day whitch had a story from a perfesser feller up in pa whitch says that crude oil is bein made up evryday out of fish. it sed it is a hundred trilyun or sum sutch number of a fish what is et up evry year bi sum

moar fish and if they was not et up they wud tern 2 oil bi bein kovered up bi the erthqwake in japan. i aint never had no experents with earthqwakes so i do not no about that, but i do no he is on the rite track 2 find out how cum oil on akount he is follerin me.

i hav got me a map of texas whitch was got up bi sum geology fellers what gits pade fer teechin skule an on akount of that has time 2 be drawin maps what dont meen mutch, an this here map has got a funny brown spot almost in the middle of it whitch they call the burnet uplift on akount it is clost 2 burnet an it is brown on the map like a skorch plase. wel i was noticin this hear spot wile i was studdyin if i had better go find anuther feeld in the middel of texas 2 help out powell in the overproduckshun of oil in that genral lokashun, an then i seen in the paper that sum peepul is puttin in a plant 2 make medcine out of sum stuff they hav found up their whitch they call ichthyol. this hear medcine, cleo, is fer the itch like the name soundes, and ichthyol is also a funny name frum the holyroller langwedge whitch meens dead fish or sumthin like that, an that is what that stuff is. the name more do fit good, eh cleo?

well that prooves mi supe theery hunny, escept i maid 1 mistake in the supe an shud a sed fish chowder instid of supe.

the way it all happened was this. wen all the fishes what went in2 this hear chowder fer the texas an oklehomer oil feelds was first piled up it was in a swamp rite clost 2 where the town of burnet is rite now. then it was a erth qwake summers around an it humped up the lake with all the ded fish in the bottum till they was clost 2 the sun an it was so hot on top of the high hill what it maid that they got cooked good an brown an all the oil in them run out an down the side of the hill an in2 cracks an evrywheres untll it gotten 2 where it is now. an then sumthin elst happend an the high plase cum down lower agin, but it was alreddy bernt like it shows on mi map an the part of the fish what was left was ruint for oil but it was made good for this here medicine stuff.

i gess now peepul will be satisfied that the supply of oil aint never going 2 run out, but if they ever do think it is all it will be needed 2 do will be 2 find a low plase what aint mutch good an fill her full of fish. then after they hav set a wile set it afire an wen she gits 2 bernin good pore on sum firefome an then let her set. mabe it cud be done in tanks if ennyboddy cud stand the smell, whitch aint so awful bad on akount i smelled sum cars of fish bones wunst over 2 beaumont an i hav smelled worse but i dont like 2.

or i no a still more better way than that 2 make oil bi a cold prosess an do the heetin up of it 2 tern it to crude afterwards an that wud be 2 kill all the cats in the gulf of mexiko, whitch wud be sum job.

the reesen i say the cat fish will haft 2 be kilt is that they eet up all the remainders of other fishes an they aint got enuff bones in themselfs 2 make oil wen they die, an it has 2 be bones in the fish 2 git the ackshum whitch makes the fish oil change 2 crude petrolum oil.

as soon as i can git things aranged so i can hav me a labrotory 2 werk in i am goin 2 git me sum cat fish and sea if it is enny way i can dope them up so they will make oil, but they aint verry greesy like mullets, but it aint half enuff mullets like it is cats as evrobody whitch has bin fishin will tell yu if yu do not no it yoreself. if it is sum way 2 mix sumthin with the ded cats an make them tern 2oil i can reglate the amount so as 2 make whatever kind of oil i want an make it ezy to refine.

i startid out 2 studdy up on catfish on akount mabe i wud want 2 experyment with them like i sed, so i looked in the dickshunery an the encyklerpederia 2 sea about them, an cleo yu wud be suprised. i hav bin fishin with a lot of good cussers wen the cats was bitin good but they did not call them no names atall like a reely truley edercated feller what noes his stuff about fish calls them. them fellers jest classes them all togeither an then calls them names whitch i dont think no sundy school teecher wud like 2 here used. amoung the terms they applies is physostomous, teleost, siluridae an nematognathi. i do not no what them werds meens in american but 1 of the gratest things about bein edycated is 2 be abul 2 use kuss werds like them an not hav no boddy no what yu are sayin. i kwit lookin up cat fish because i cud not find all the werds they used in describin them. but if i ever go fishin agin i will no enuff what 2 say wen a catfish fins me, if i can remember them werds.

but if mi skeem werks it will meen that peepul will stop cussin on akount they will be good fer sumthin, an wen i git mi company going 2 make crude oil of cats the fishermen will git ritch sellin them 2 mi co for five fer 1 sent an be glad 2 do it.

these hear cold nites is makin me mitey lonesum fer a littel wife, so if i can pull sum kind of a deel rite away so as 2 git enuff fer us 2 start on i am cumin down an bring yu back with me. an yu will cum, 2, wont yu cleo?

yore lovin paul

ps. maybe, hunny, i better not cum down after yu after all. yu jest be reddy 2 cum 2 huston wen i say i am reddy fer yu an not say nuthin 2 yore maw about where yu are goin an what fer. dont yu think that wud git things off more smoother?

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Say you saw it in The Oil Weekly

SQUEAKS from the BULL WHEEL

No Experience

A country negro applied for a job at a large employment agency in the city.

"There's a job open at the Eagle Laundry," said the man behind the desk. "Want it?"

The applicant shifted from one foot to the other.

"Tell you how it is, boss," he said finally. "I sure does want a job mighty bad, but de fack is I ain't never washed a eagle."—Marion Line

---

Little Boy—"Mother, will I go to heaven when I die?"

Mother — "Yes, if you're a good boy."

"Mother, will my dog go to heaven?"

"No."

"Mother, will our cow go to heaven?"

"No, because animals have no souls."

"Well, will we have to go to hell for our milk then?"

It is reported that it is raining oil in China.—Arkansas Oil and Mineral News. We shouldn't wonder. That's probably the bottom falling out of the Texas oil-wells that so many oil enthusiasts bought stock in.—Arkansaw Thomas Cat (Hot Springs).

A professor of geology says that primeval deposits of fish are the source of all oil wells. Now the modern fish are buying stock in the wells.—Nashville Southern Lumberman.

Kissing a girl is like opening a bottle of olives—if you get one the rest come easy.—Pure Oil News.

Him: "Can you take a joke?"

Her: "Oh, Jack, please don't propose!"—Clipped.

Mr. Eichenstein returned home from business and found his wife rocking the baby and singing, "By-low, baby, by-low; by-low, baby, by-low—"

"Dot's right, Sarah. You teach him to buy low, and I'll teach him to sell high."—Everybody's Magazine.

Mamma: "Where have you been, Johnnie?"

Small Boy: "Playing ball."

Mamma (severely): "But I told you to beat the rug, didn't I?"

Small Boy: "No ma'am, you told me to hang the rug on the line and then to beat it."

They met on the stairs as
lodgers do,
And both of them smiled and
spoke.
The long look in her eyes went
through
His heart like a lightning
stroke!

And "Won't you come in?" the
Lady said,
Now wouldn't you feel a
thrill?
And wouldn't you blush a rosy
red,
And wouldn't your heart stand
still?

But, oh, it wasn't her kiss that
made
His happiness overflow;
It wasn't because of Love he
stayed,
And wept when he had to go!

It wasn't his smile, to tell the
truth,
That moved her to ask him
in—
For he had a quart of French
vermouth
And she had a quart of gin!

—Paul Ratson.

Our City Cousin's Mistake
(A True Incident)

Our city cousin, she came out
To visit at our home;
About the fields and pastures
She dearly loved to roam.

One fine day, as she was walking
Along the pasture way,
She spied a little kitty
She thought had gone astray.

Its fur was nice and silky,
Its color white and black;
She said, "Poor little kitty,
I'll surely take you back."

She gently took poor pussy up—
Here ought to end my tale;
She freely used her perfume,
But all without avail.

Her clothes she tried to sterilize,
She laid them far away;
A sadder and wiser girl
Was she upon that day.

Now when she sees a kitty,
She looks at it with care;
She notes the way its stripes
are laid,
The color of its hair.

If there's a white stripe down
its back,
She quickly goes away—
For fear that little kitty
Is a SKUNK!

—A. J. VERRILL,
in Sovereign Visitor.

In attempting to get out of the way Mrs. Stall fell, bruising her somewhat.—Cary, Ohio, Times.

"What kind of meat have you this morning?" asked the haggard husband of the butcher.

"The best steak we ever had, sir," replied the butcher. "Here you are, sir, as smooth as velvet and as tender as a woman's heart."

The husband looked up and said: "I'll take sausage."—Medical Pickwick.

A gentleman in Cincinnati employs two negroes to work on his rather extensive gardens, which he personally oversees. One morning Sam did not appear.

"Where is Sam, George?" he asked.

"In de hospital, sah."

"In the hospital? Why, how in the world did that happen?"

"Well, Sam he been a-tellin' me ev'y mo'nin' foh ten yeahs, he gwine to lick his wife 'cause o' her naggin'."

"Well?"

"Well, yestiddy, she done ovah heah him. Da's all."

Ole Ander, a yokel, visiting in town one day, asked a restaurant proprietor:

"Got any squirrel whiskey?"

"No, said the restaurant man, "but I can slip you a bottle of Old Crow."

"Aye don't vant to fly," said the Swede, "aye yust vant to yump around a little bit."—Youngstown Telegram.

Two young kindergarten teachers, intelligent and attractive, while riding in a street car, were engaged in an animated discussion. In the seat behind them sat a good natured, fatherly looking Irishman enjoying a nap. Finally one kindergartner inquired of the other:

"How many children have you?"

"Twenty-two," she replied. "And how many have you?"

"Oh, I have only nineteen," replied the first.

At this point the Irishman, now wide awake with astonishment, leaned forward in his seat and, without any formality, inquired in a loud voice:

"What part of Ireland did youse come from?" — Algeria Idea.

Yes, sir, the guy next door was right when he said: "Bobbed hair has certainly been rough on rats."

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Jacksonville, Fla.
Galveston, Texas

GUIDE FOR PURCHASERS

Air Compressors—
Southern Engine & Pump Co.

Air Lift Pumping Equipment—
Gardner Governor Co.
Sullivan Machinery Co.

Attorneys—
Hirsch & Hannay
Vinson, Elkins & Wood

Balls and Seats—
The Chas. N. Hough Mfg. Co.

Band Wheels—
Lee C. Moore & Co., Inc.

Banks—
Exchange Banks of Tulsa
First National Bank of Tulsa

Belting—
Bridgeport Machinery Co.
Continental Supply Co.
D. F. Connolly Agency
Frick-Reid Supply Co.
Norris Bros.
Oil Well Supply Co.
Republic Supply Co.

Boilers—
Bridgeport Machine Co.
The Brownell Co.
D. F. Connolly Agency
Continental Supply Co.
Frick-Reid Supply Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Republic Supply Company
Titusville Iron Works Co.
United Iron Works, Inc.
See Oil Field Supplies and Tanks

Burners—
Gaso Pump & Burner Mfg. Co.
Norris Bros.

Bull Wheels—
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Tulsa Rig Reel & Mfg. Co.

Calf Wheels—
Lee C. Moore & Co., Inc.

Casing—
David L. Schofield
Republic Supply Company

Casing Shoes—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Continental Supply Co.
Gulf Coast Machine & Supply Co.
The National Supply Cos.
Pelican Well Tool & Supply Co.
Republic Supply Company

Cement Hardener—
The Sullivan Co.

Compressors—
Butler Mfg. Co.
Gardner Governor Co.
F. W. Heitmann Co.
Hope Engineering Co.
Sullivan Machinery Co.
United Iron Works, Inc.

Cordage—
D. F. Connolly Agency
Continental Supply Co.
The National Supply Cos.
Republic Supply Company

Crown Blocks—
American Well & Pros. Co.
Boykin Machinery & Sup. Co.
Gulf Coast Machine & Supply Co.
International Derrick & Equipment Co.
Lufkin Foundry & Machine Co.
Oil City Iron Works, Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Couplings—
Harrisburg Pipe & Pipe Bending Co.

Dehydrating Processes—
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Petroleum Rectifying Co.

Derricks and Rigs—
International Derrick & Equipment Co.
Lee C. Moore & Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Tulsa Rig Reel & Mfg. Co.

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Sullivan Machinery Co.

Disc Bits—
Rotary Disc Bit Co.

Ditchers—
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Draw Works—
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Lufkin Foundry & Machine Co.

Drilling Cables—
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Frick-Reid Supply Co.
F. W. Heitmann Co
The National Supply Cos.
Peden Iron & Steel Co.
Republic Supply Company
Williamsport Wire Rope Distributing Co.

Drilling Machines—
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Keystone Driller Co.
Oil City Iron Works, Inc.
Parkersburg Rig & Reel Co.

Drill Pipe—
Continental Supply Co.
Republic Supply Company
Reading Iron Co.
Standard Seamless Tube Co.

Drilling Equipment—
American Well & Pros. Co.
Bridgeport Machine Co.
Continental Supply Co.
Oil City Iron Works
Republic Supply Company

Drive Pipe—
Republic Supply Company
Reading Iron Co.

Electrical Equipment—
Southwest Gen. Elec. Co.
Westinghouse Elec. & Mfg. Co.

Elevators—
B. & C. Machine & Fndy. Co.
Bridgeport Machine Co.
Dunn Mfg. Co.
Gulf Coast Machine & Supply Co.
Norris Bros.
Wilson & Willard Mfg. Co.

Engines, Diesel—
Western Machinery Co.

Engines, Gas—
The Braden Co.
Western Machinery Co.

Engines, Oil—
Continental Supply Co.
Western Machinery Co.

Engines, Pumping—
Ajax Iron Works
American Well & Pros. Co.
Bessemer Gas Engine Co.
Bridgeport Machine Co.
The Brownell Co.
De La Vergne Machine Co.
Franklin Valveless Engine Co.
Hope Engineering Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
The National Supply Cos.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Republic Supply Company
Southern Engine & Pump Co.
Titusville Iron Works

Engineers—
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F. W. Freeborn Eng. Co.
Geo. C. Matson
Lee C. Moore & Co.

Fire Protection—
Foamite-Childs Corporation

Fish Tail Bits—
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Federal Supply Co.
Gulf Coast Machine & Sup. Co.
Oil City Iron Works, Inc.
Pelican Well Tool & Sup. Co.

Floor Circle Brace—
Dunn Mfg. Co.

Fuel Oil—
Gulf Ref. Co.
Sinclair Ref. Co.

Gas Trap—
Trumble Gas Trap Co.

Gasoline Extraction Compressors—
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Gardner Governor Co.
Sullivan Machinery Co.

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Gauge Board—
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Alexander Deussen
Edwin B. Hopkins
Geo. C. Matson
Herald Bros.

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Laboratory Equipment—
Fort Worth Laboratories

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Westinghouse Elec. & Mfg. Co.

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Republic Supply Company
Reading Iron Co.

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Meters—
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Motors—
Southwest Gen. Elec. Co.

Oil Field Supplies—
American Well & Pros. Co.
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The Braden Co.
Bridgeport Machine Co.
Butler Mfg. Co.
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Frick-Reid Supply Co.
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Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
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Republic Supply Company
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H. M. Spence
Tulsa Rig Reel & Mfg. Co.
United Iron Works, Inc.

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Texas Pipe & Supply Co.

Packers—
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Layne & Bowler
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Packing—
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Pelican Well Tool & Sup. Co.
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Rotary Fish Tail Bits—
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Federal Supply Co.
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Steel Manufacturers—
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Tanks—
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Maloney Tank Co.
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Hughes Tool Co.

Tool Joints—(Cont.)
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Tubing Lines—
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Pratt & Cady
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Reading Valve & Fittings Co.
Westcott Valve Mfg. Co.

Vacuum Pumps—
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Sullivan Machinery Co.

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Ludlow Valve Mfg. Co.
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Norris Bros.
Peden Iron & Steel Co.
Pratt & Cady
Republic Supply Company
Reading Steel Casting Co.
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United Iron Works

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Working Barrels—
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Republic Supply Company
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Texas Oil Pump Co.
McGregor Working Barrel Co.

Water Gauges—
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Houston Oil Field Material Co.
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Republic Supply Company
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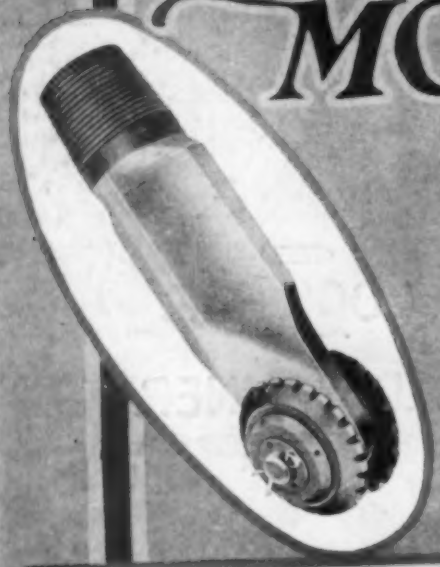
BEAUMONT, TEXAS

MORE HOLE with HUGHES DISC BITS



W. C. Stroube, contractor, Joe Russell, driller, drilled 55 ft. of hard chalk in 18 hours using one set of discs.

Sweanger & Coliecutt, Humphreys Kent, drilled 160 ft. of chalk rock with 3 sets discs—size 11", depth 1980-2140 ft.

J. L. Collins, contractor, Skelly Oil Company Ramsey No. 1. 4 sets discs on 500 ft. lime. Left to right: Arthur Ochler, R. M. Smith, J. L. Gandy (driller), N. D. Gandy, G. H. Germany. 9" Disc Bit.

John Lynd, Contractor Humble Oil & Ref. Co. Pugh No. 4 W. H. Walker, Driller 162 ft. chalk; 4 sets discs; 1924 ft. to 2086 ft. 9-in. disc bit.

Morgan & Birdwell, contractors. Kirby Petroleum Co., Brown No. 2, L. B. Young, Driller, 9⅞" Disc Bit, 35 ft. hard lime, 1 set discs, 9 hrs. running time.

Rotary Drilling Co. on new Damon Kent No. 6, using a 9½" disc bit, drilling hard chalk.

HUGHES TOOL Co.

HOUSTON, TEXAS BRANCH-LOS ANGELES, CAL.